



VOL. X No. 17.

CLEVELAND, O., APRIL 26, 1888.

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AROUND THE LAKES.

CLEVELAND.

Captain Geo. Simpson, the compass adjuster, arrived here from Chicago, Sunday evening, where he has been doing considerable work. He left for Detroit Tuesday evening.

The steamer City of Detroit made an extra trip on Sunday. So much freight was on the dock that she loaded and returned to Detroit after arriving Sunday morning, and came back Sunday night so as to get away on regular time.

The propeller Nashua recently purchased by Mr. Lane, of Buffalo, from the Hamilton estate, was taken to Mr. William Redcliffe's shipyard Monday, where her upper works will be taken off and necessary repairs made to put her in shape for the lumber carrying trade.

Messrs. J. E. and A. H. Simpson, the well known drydock constructors of New York, were in the city Monday to bid on the work of putting in the proposed vessel owners' drydock. They have several patents which cover and protect their system of docks and do a very extensive business in all parts of the country.

Arrangements have been made through the office of the collector of customs at this port to have Captain C. C. Goodwin keeper, of the life saving station, bail all vessels and make complete lists of all arrivals and departures. This has become a necessity from the fact that no custom house will be opened on the river until the 1st of July this season, lack of fund being assigned as the cause.

At the Cleveland drydock the Zach Chandler, has received considerable repairs. She has been recalced all over, refastened, new stringers, part new deck, cabin rebuilt, new stern and her stem straightened up. She goes out of dock Thursday and the schooner Geo. H. Ely, takes her place. She will be recalced and thoroughly searched up and all necessary repairs will be made.

Captain D. P. Dobbins, superintendent of the 9th life saving district paid Cleveland station a visit Sunday afternoon. He expressed himself as being well pleased with the management and appearance of things at this port. Captain Dobbins intends developing some of his practical ideas in the construction of metallic life boats during the summer and it is safe to say some very useful improvements will be made in that class of boats.

A sad accident occurred at the Cleveland Drydock on Monday about 6 p. m. Mr. Geo. Neville, the oldest brother of Captain Dick Neville, while walking along the edge of the drydock accidentally fell into the dock, his skull was split open, ribs broken and an arm dislocated, death was instantaneous. The deceased leaves a wife and three children, to mourn the loss. He was 68 years of age, a caller by profession and a man much respected by all who knew him. The funeral takes place from his home, 168 Taylor street, on Thursday afternoon. This is the first death or serious accident that ever occurred at this drydock.

The bureau of navigation report the tonnage of the following named vessels steam and sail to be: Schooner Annie M. Ash, of Buffalo, 1258.62 gross, 1212.29 net; Aloha, of Marquette, 521.99 gross, 500.99 net; steamer Erie, of Sandusky, 21.24 gross, 10.62 net; steamer Frank Woods, of Grand Haven, 269.89 gross, 214.96 net; steamer Henry J. Johnson, 1713.39 gross, 1443.06 net; steamer Miami, of Toledo, 228.88 gross, 191.26 net; steamer Matti, of Evansville Ind., 6.52 gross, 6.52 net; steamer Mark Hopkins, of Grand Haven, 732.06 gross, 493.70 net; steamer Post Boy, of Port Huron, 123.75 gross, 80.94 net.

The harbor tug Paddy Murphy was burned to the waters edge at Dover Bay, last Tuesday afternoon. She left here with the Republic for Lorain and when about twelve miles from Cleveland, she in some manner took fire and Louis Presley, who was in charge beached her. Captain Goodman and the life saving crew with the tug Allie May, went to their assistance returning here about 10:30 Tuesday night. The Murphy was formerly owned by Thos. Axworthy, of this city, who recently sold her to Mr. Maytham, of Buffalo. She was valued at \$6,000 insured for \$3,000. She was 21 tons, built at Saugatuck by Martel, in 1882, and classed

A1. She was brought from Chicago, in 1886 and considered one of the most powerful tugs at this harbor.

Cleveland has a vessel owners' tug line this season. We called at their office at Main street, bridge on Tuesday, but found the officers hardly in good condition for business there being neither directors or managers present, however it is safe to assert that Wm. Bates, formerly of the river custom house and later of the firm of Anderson & Bates, will be manager of the line, which, as nearly as we can gather, will consist of the following tugs: Forest City, Tom Munson, Dreadnaught, Hawley, J. D. Dudley, Worswick and Doan. It is expected that the Cushing, Gregory, Castle, Florence, and Allie May, may go into this line, but as yet there is nothing certain about it. The desire of those who are at the head of this new tug line is to get all the tugs in the harbor consolidated into one line and each take a proportion of earnings due to them which certainly would be a good plan for all.

The repairs on the schooner Richard Winslow, are about finished and her appearance has been very much improved. The work which has been done under the watchful eye of Captain Connors, has added considerable to her strength as well as beauty. She has had six strakes of plank four and aft amidships, new fashion timbers and knight heads, new plank shear and new rail 6 by 18 inches, new stanchions 6 by 7, 3 strakes of stringers inside and out notched into stanchions, one 5 by 9 1/2, with two bolts in each stanchion and edge bolted through rail and stringer, new quarter deck and new forward deck, tow posts and stem and considerable repairs on center board box; the stanchions extend down to the fifth strake of planking and are fastened with two spikes and one 1/2 inch bolt in the plank shear. Captain Connors will be master of this vessel and Mr. McDowell will be chief mate. The Winslow will be ready for sea in about ten days.

The new steel steamer Corsica, owned by the Mutual Transportation Co., made her trial trip Monday afternoon, leaving the east pier at two o'clock with about 400 people aboard. She went out in the lake about five or six miles and her action was very satisfactory to all concerned. The engines are of the Globe Iron Works Co.'s well, known type of triple expansion, exact duplicate of those in the steamer Cambria built by this firm a year ago. The size of the cylinders are 24 high, 38 intermediate, and 61 low pressure by 42 stroke. Slide valves are fitted to all the cylinders. On the trial trip with 120 pounds in the boiler they made 82 revolutions per minute for a short spurt and as it was thought best not to force them until the bearings smoothed down, they were hooked up in the fourth notch and with 110 pounds of steam they revolved steadily throughout the trial at 71 revolutions per minute, indicating 751 horse power distributed as follows: 266.5 horse power in the high, 263.5 horse power in the intermediate and 221 horse power in the low pressure cylinder. They worked very smoothly for new engines and without any tendency to heat. These engines turn a propeller wheel of the sectional pattern 14 feet diameter by 17 feet pitch. The boilers are 14 feet diameter by 12 feet 6 inches long, without any steam drums. The shells are of steel 1 1/2 thick, 60,000 tensile strength and are allowed to carry 160 pounds of steam per square inch. There are three furnaces in each boiler 46" diameter. All the circular seams are double riveted and the longitudinal seams are double butt strapped with six rows of rivets. All the rivet holes in the shell are drilled in place and the rivetting is done by hydraulic power. Among those present were Mr. Pankhurst, of the Globe Iron Works Co., who left New York, Sunday night and arrived just in time to get on board. She promises to prove a very fast boat and in every respect equals the expectations of builders and owners.

Meteorological summary for the week ending April 24, 1888:
Mean actual barometer..... 30.14
Mean temperature..... 39.9
Mean humidity..... 65.4
Total precipitation..... .09
Prevailing direction of wind..... N.W.
Total wind movement..... 1353
Av. cloudiness..... 6.2
Av. state of weather..... Fair.
Max. temperature, highest..... 57.3
Min temperature, lowest..... 34.1
W. H. HAMMON, Sergt. Signal Corps, U. S. A.

CHICAGO.

Special to the Marine Record

Everybody interested in shipping at this port are as busy as bees. The shipchangers, sail makers, riggers, shipbuilders, ship-smiths, coal merchants and ship supply men are up to their eyes in work. The multitude of captains, mates and engineers belonging to the steam and sail crafts which have wintered here have either fitted out, or are busy fitting out their vessels preparatory to making their first start this season. The schooner Ida arrived Sunday with lumber from Whitehall. Captain Martin Jacobson has during the winter months done considerable work on her, consisting of new rider and assistant keelsons, new deck beams and deck, new plank sheer, stanchions, bits and pawl posts and a thorough refastening.

Captain Oliver Swanson arrived here Saturday from Fort Howard, Wis., where his schooner the Ellen Williams has been hauled out and received a thorough rebuild. She will be launched this week.

Martin McNulty's schooner C. P. Royce has received a thorough overhauling, consisting of new bilge keelsons, 125 new frames, new ceiling six inches thick, new decks and stanchions, refastening and recalking.

Captain Robert Todd looked and appeared to feel quite at home in his new and elevated position on board the steamship John B. Lyon when going down Chicago river last Friday, handled his new command as though he had been used to steamships all his life.

Gieson & Swinson, sailmakers, are removing from 210 South Water street to their old stand at 252 South Water street, where they will occupy the two top floors for sail lofts and sailmaking.

W. T. Bailey, lumber merchant, was here Tuesday from Duluth. He states that the ice is solid as far as Beaver Bay. Mr. Bailey was a resident of Chicago before the great fire, and was part owner of the schooners Harriet Ann, Persia and Sea Star.

Captain John Hanson is giving his schooner Norma new frames and ceiling forward, new rail and center board and a general overhauling and calking.

The Chicago Towing Company's tug Tom Brown, is getting a new boiler, new decks, plank sheer, stanchions and rail, and a general overhauling, and their tug, Mary McLane is receiving new deck, plank sheer, stanchions and rail.

Captain James Clark is very proud of his newly purchased schooner, Hercules. He says she stood up like a frigate with the 13,000 cedar posts she brought over here from Ludington this week.

C. A. Weeks, of Bay City, was here Tuesday looking after the schooner Guiding Star, he purchased in January last. Captain L. C. Cole, of Oswego, will command her; she and the schooner John Sherman will tow with the steambarge Oswegatchie and will trade from Buffalo to Lake Michigan ports and from Cleveland to Lake Superior ports with coal and lumber.

Captain John Mitchell, of Marine City, was here Monday looking after the steamship W. H. Gratwick.

John Corrigan, of Cleveland, was in this city Monday looking after his fleet of fine vessels.

Captain C. B. Chatterton has given his schooner C. A. King a new stern, new frames and ceiling forward and aft, new deck frames, deck, poop deck, hatchcombs and hatches, and a general overhauling and calking; also wire rigging.

A. P. Hanson shipsmith at Miller's shipyard is very busy doing lots of general work on schooners, steam barges and tugs, keeping twelve men hard at it almost night and day.

Captain John A. Stubbs will sail the schooner Adirondack this season. She is at Miller's shipyard getting a new foremast and will go into dry dock for new frames and ceiling, and a general overhauling.

At Miller Brother's shipyard the steambarge, T. D. Stimson, was in dock for new rider keelsons; the tug A. B. Ward, steambarge Berrien, H. A. Root and Seymour, Jr., and scow Restless, to have leaks stopped; the steamer, Welcome, for some new outside plank; tug Crowle for repairs to stern bearing and fixing rudder; the steamship, Wallula, for some new plank forward; the tug Munson, for a new wheel; the steam-

barge, White and Friant, for bottom calking; the schooner C. C. Trowbridge for a general overhauling and calking; the steamship Clyde is having her decks calked.

The steambarge Berrien collided with the steambarge Alice M. Gill Friday afternoon just above Main street bridge, and badly damaged the Gill's stern. The Gill had just been unloaded and was swinging around to go down the river when the Berrien coming down the river, light, ran into her; the Gill went into one of Miller's dry docks for a new stern.

The steambarge Swallow, Captain John M. Campbell, when coming down the river, light, from Mud lake Monday afternoon, struck an obstruction at the bottom and carried away her shoe and broke her rudder stock. She is at Miller's getting a new shoe and rudder stock.

A splendid new Trout wheel, 9 feet 6 inches diameter, for the Graham & Morton Transportation Company's passenger and freight steamer, Puritan, arrived at Miller Brother's shipyard Tuesday.

The Chicago board of marine underwriters met Tuesday afternoon and adopted the following schedule trip rates on grain: From Chicago to ports on Lake Michigan 25 cents; to ports on Lake Superior 40 cents; to Lake Huron, Sarnia and Detroit river 35 cents; to Georgian Bay 40 cents; to Lake Erie 40 cents; to Lake Ontario 40 cents; to Ogdensburg 60 cents; to Montreal \$1.00. The rates to go into effect at 6 p. m. Apr. 24.

The steamships John F. Eddy, Iron Age, Iron City and Robert Holland were chartered Tuesday for corn to Buffalo at 2 cents per bushel.

At the Chicago dry dock company's the propeller City of Traverse was in dock for a new "Trout" wheel, new ironing and calking; the propeller Oneida for repairs to shoe and calking; the schooner Delos DeWolf to go in Wednesday night for new bilge plank and calking, and other repairs; the schooner Ellen is receiving new stern which was damaged by the collision with the steambarge C. H. Starke; schooners Sage, Truman Moss, Narragansett, Homer and yacht Countess receiving general repairs.

The Hubbell has had thorough calking, including rails and wale strakes and new roof on cabin, iron boiler house, new life boats, boiler thoroughly overhauled, engine thoroughly overhauled, in fact put in splendid order; thoroughly painted all through and will come out in first-class shape at a cost of \$2,000, and will be commanded by Captain G. W. Flood. V. Young, mate, A. LaFlure, chief engineer, and Perrie second engineer; the engineers are formerly of the steambarge James H. Schrigley.

The John T. Johnson was thoroughly overhauled including calking, new wale strakes, new center box, and a fine coat of paint. She comes out in first-class order at a cost of \$1,000; she will be commanded by Captain John Mulvaney, formerly of Captain Kerby's employ, of Grand Haven. These barges will run in the Sarnia and Georgian bay and Sault Ste. Marie trade, taking down grain and bringing back lumber for the John Spry lumber company; their combined capacity for grain is 67,000 bushels and for lumber 1,250,000. The Hubbell may tow one or two more barges, as with her new overhaul she will be a powerful tower. She is owned by the John Spry lumber company and Captain G. W. Flood of Chicago.

SAND BEACH.

Special to the Marine Record

The steamer Kalkaska, tried to force a passage to the shore dock but found the ice in the harbor from two to three feet thick, so gave the job up. The next day fishermen and other interested parties sawed a channel through.

Tuesday the steamer Oscoda, bound up, landed at the dock and put on a large amount of freight for Oscoda.

The fishing tugs Angler and Grayling, followed the Oscoda outside and set their nets. The Grayling got back to the dock but the ice closed in and the Angler lay out at the breakwater all night.

The propeller Atlantic, bound up April 15, tried to get to the dock but failed. She called on her way down and landed a quantity of freight.

The life saving station went into commission April 16th, with Captain Geo. W. Plough in command, in place of Captain David E. Daws, who resigned last fall. T.

BUFFALO.

The condition of the ice is a main topic in lake matters now. Business has dropped down to very small proportions beyond fitting out and repairing, and there is likely to be still less doing soon, if the reports from outside are not negatived by warm weather. There is some sign of open water here, but Captain Maythem, just from Cleveland, reports that ice extends several miles beyond Dunkirk, and at the latter point it looks to be frozen solid across the lake.

The package freight line managers had a meeting on Thursday and agreed to open their warehouses for freight next Monday, though they have very little expectation of getting out for some time.

The official schedule of the Lake Superior Transportation Line is out. It gives the following propellers as constituting the fleet: Nyack, India, China, Japan, Winslow, Empire State, Badger State, Idaho, Fountain City, Vanderbilt, Annie Young, Gordon Campbell, Staruca and Montana. The last five are freight boats and will not be run on schedule.

Two clearances were taken out, the first of the season. The propeller John C. Pringle cleared for Toledo and the schooner Donaldson for Milwaukee. Both have coal or will have when loaded.

Supt. Dobbins, who returned yesterday from Lake Ontario, states that vessels are actively engaged on that lake down as far as Oswego, but that there is solid ice from there to Kingston. The business is mostly in Canadian lumber and barley.

There is not much doing among marine men, everybody is waiting patiently for the opening. It was learned that the propellers Spokane and Wallula have been chartered for the season by the Lackawanna to run between here and Duluth, although Wilson will continue to manage the boats. The propeller Spokane is being furnished with machinery here to handle package freight. The propeller V. Swain and schooner Helvetia have been chartered for wheat from Duluth to Buffalo at 3 1/2 cents. This high rate is explained by the fact that the shipper were anxious to save the storage charges.

The ice in the lake outside of here is pretty well broken up by the east wind, and considerable of it has gone down the river. It is expected that a good strong southwest wind will bring the ice together again. In is hoped by vesselmen that this will not occur as with fair weather the lake will open fully a week earlier.

Ice reports are all discouraging to an early opening. Superintendent Dobbins, of the life-saving service from Oswego, to-day reports solid ice beyond that point. Lake Erie ice extends above Dunkirk.

The propeller John C. Pringle cleared for Toledo and schooner Donaldson for Milwaukee, both with coal, the first of the season.

Captain MacGregor, late master of the propeller D. Ballentine, will sail the propeller Saginaw Valley, now being lengthened.

The package freight lines will receive freight next Monday. Barges Uranus and Winona are chartered for coal to Chicago at 75 cents per ton.

EAST SAGINAW.

Captain W. B. MacGregor, last year master of the propeller D. Ballentine, has been appointed master of the propeller Saginaw Valley.

Garry Bros. have purchased the barge D. H. Keys, from W. G. Van Aken, of Saginaw. She will be sailed by Charles Garry, brother of the owners.

SANDUSKY.

J. and T. Hurley, of Detroit, purchased the tug Bennett from the Sandusky Steamboat Company. She was built in 1876 at Huron, and has been in service as a harbor tug for three years.

PORT HURON.

The ferry Conger is receiving her annual overhauling. A drudge is at work dredging Black river at Howard's mill dock.

The steamer Mackinaw arrived up Saturday and left for Harrisville.

Captain John C. Pringle, of St. Clair, is in the city to-day on marine business.

The steam barge Oscoda, Capt Alex Sinclair, passed down on Sunday last with a cargo of lumber for Cleveland. She is the

EXTEMPORE LINES ON THE DEATH OF
A SHIPMATE AT SEA.

BY CAPTAIN JOHN SWAINSON.

Roll, gently roll, ye treacherous deep,
O'er the grave of our shipmate and townsman,
Heave, gently, heave nor disturb his sleep,
Whilst the sea-weeds enshrouded around him.
But a few hours ago he was full of fun,
Rare sample of animation,
But now, alas! his race is run,
And we pray for his soul's salvation.

Whilst employed on the poop of the "Isles of the South,"
About eleven o'clock in the forenoon,
Our cap'en let go royal halyards to leeward,
And poor Dave, he jumped on to the end of the boom;

Scarce holding on, yet feeling secure;
Grown accustomed to dangerous places,
He never once thought of his heavenly home,
Or the account he should render before God's throne.

A sudden splash; e'er a moment did pass,
When these ominous words we heard shouted:
"Man overboard! All hands upon deck!"
And we needed no further arousing.
To jump from our bunks and make a rush aft,
'Twas but the work of a moment;
"Man the boat! Lower away, and we'll save him yet!"

Was the cry, as things flew like magic,
We are clear of the ship, now cheerily pull,
Every limb, nerve, and muscle we strain,
She feels it and shoots like the swift-winged sea gull,

To reach that white buoy on the main,
We reach it, my God! are our hopes thus to be dashed?

Not a trace, nor a sign can we see;
He is gone, and the thought through my wild brain flashed
We must bow to our Maker's decree.

His relatives have yet to learn
Of his sad, untimely end;
His young wife, too, with an anxious heart,
A letter to him we will send.
But of earthly tidings he has now no need,
Tho' around this wide world he has coasted;
'Twould be an omnipotent postman indeed,
Could deliver this missive if posted.

No gravestone marks the hallowed spot,
Where our once loved shipmate lies;
No marble monuments raised on high
To relate how the sailor dies;
No flowers adorn his manly breast
Save those which the mermaids may gather;
He awaits in the land of the triton's rest,
The call of his heavenly Father.

ALOAD LINE.

Representative Newton W. Nutting of the twenty-seventh district of New York has at last perfected an acceptable load line bill for the protection of sailors on the great lakes. The new bill is substantially the measure formulated by the Lake Carrier's Association, with the exception of the vital section, which the lake carriers did not make sufficiently specific.

This section is the fourth in the bill, and as it has been reconstructed by Mr. Nutting, requires all vessels to have an average freeboard of not less than three inches to the foot of maximum draught, measured from a horizontal line drawn from the upper line of the plank-sheer at the bow to the upper line of the plank-sheer at the stern. It provides, however, that no vessel, however great her sheer shall have a freeboard at her lowest point of less than one inch to the foot of maximum draught; but vessels with floors raised above fore-and-aft keelsons shall be allowed a deduction of two-thirds of the height of such raised floors from the freeboard computed according to the prescribed rule of measurement.

With this section the bill seems to be perfect, and therefore worthy of support by both owners and sailors. If it is passed seamen will be provided with the safeguards in the way of boats and life preservers that are now thrown around the passengers and crews of steam vessels, and in addition they will be guarded against the dangers consequent upon overloading. Vessel owners will be put to no great expense to meet its provisions, and the majority of them will be shielded from the stigma which the criminal greed of a minority has hitherto cast upon them. The construction of seaworthy vessels will be encouraged, and the navy of the great lakes will soon become the pride of the whole United States.

It will be observed that vessels with sheer are given due credit in the measurement. This is eminently just, as vessels which rise toward bow and stern are more seaworthy than vessels without sheer. An absolutely straight vessel is not safe with a freeboard of less than three inches to the foot of maximum draught. In heavy weather the waves would wash completely over her if she were more deeply loaded, while a vessel with a reasonable amount of sheer would be dry at the ends and not uncomfortably wet at the waist with a freeboard of only an inch to the foot of maximum draught. The concession made in favor of raised floors is also just, because the air confined between the raised floor and the real floor of such vessels makes them more buoyant; it is almost the same as though they carried the space above the cargo, as actual freeboard.

Mr. Nutting's load line bill as it stands ought to be made a law; and it will become a law if the seamen of the great lakes petition for its passage, and if the press of Milwaukee, Chicago, Toledo, Cleveland, Buffalo, Oswego, and Detroit unite in vigorously supporting it. Whenever disaster overtakes an overloaded vessel and death results, criticism becomes general along the lakes. If interest in Mr. Nutting's perfected bill, which was introduced in congress on the 26th of March, could also be made general, the bill would soon be reported back favorably from the committee on merchant marine and fisheries, in whose hands it now lies, and put upon its passage.

NIAGARA SHIP CANAL.

The New York board of trade and transportation held a meeting recently, which was addressed by Congressman N. W. Nutting of Oswego, on the subject of an American ship canal around Niagara. Mr. Nutting said that the question was one of national importance, one which affected the national pride. Canada was expending large sums of money in improving her waterways, and so drawing away our trade. Millions of dollars, he said, had been paid this year by Americans for the transportation of freight over Canadian roads. By cutting a canal around Niagara Falls, connecting Lake Ontario with Lake Erie, it is claimed that three quarters of a cent per bushel can be saved in the cost of transporting grain from the west to New York, and over a day in the length of time.

The project has been opposed on the ground that if the traffic on the canal into Lake Ontario it would be drawn away down the St. Lawrence. This, Mr. Nutting said, was false. A cargo of grain in the middle of Lake Ontario could be sent to Liverpool cheaper via New York than Montreal.

The cost of the canal had been estimated at from \$10,000,000 to \$18,000,000. Mr. Nutting said he did not want financial aid, but only the support and endorsement of the legislature. The bill has a very good chance in congress, which he has a right to be induced into congress. Mr. Nutting was followed by Mr. De Witt C. Littlejohn, ex-speaker of the assembly, who favored the canal. The subject was referred to a committee of ten, who will report at a special meeting.

A telegram of the 15th says there is no prospect of the ice giving way in spite of the announcement that the propeller Minneapolis and consort, San Diego, are coming down from Detroit. They are thinking they can't get here. The tug Moon went round on grounded ice on the shoals outside Saturday and had to be pulled off. She was bound down the river, and would have made no headway in lake ice. The propeller H. D. Coffinberry and consorts, Planet, Uranus, and Winona, will carry coal for the Silver Creek Coal Company, Chicago, at going rates all season at the convenience of each party, the charter being very flexible. The Planet and propeller Conemaugh are chartered for Chicago at 75 cents.

Coal shippers continue to pick up tonnage as fast as it offers. The propeller Hecla was chartered to Chicago at 75 cents, and schooner A. M. Peterson to Toledo at 50 cents. The propellers Missoula, Kawa, and Calumet were taken for Duluth. This being the first charter of the season for that port, considerable anxiety was shown to learn the rate, but all parties refuse to give it, saying it was to be incorporated into a season charter. It is something above 50c.

Captain Wicks, of the propeller J. C. Gilchrist, has arrived and reports solid ice as far up as Dunkirk, forty miles. No ice is running down the Niagara, as it is grounded on shoals and piled very high. Prospects of a very slow disappearance of it unless the weather is much warmer.

Insurance agents are sending out hull rates to correspondents privately. They are a trifle below last year's figures. No demoralization is apparent yet.

MR. NELSON of Minnesota, introduced a bill for the construction of a bridge across the canal entrance to the harbor of Duluth, Minnesota, citing that the city of Duluth, a municipal corporation in the state of Minnesota, or its assigns, or any legally incorporated railroad company or companies, which may be associated with it therein, be, and is hereby, authorized to construct and maintain a bridge and approaches thereto over the ship-canal and upon the government piers of the same through Minnesota Point, being the entrance to the Duluth harbor from Lake Superior, if upon consideration of a board of engineer officers, to be specially selected for the purpose, a bridge can be built without serious injury to the canal as an entrance to the harbor, and then only upon the plans and at the location recommended by the board and approved by the secretary of war; said bridge shall be constructed to provide for the passage of railway trains, and further provide for the passage of wagons, street-railway cars, and vehicles of all kinds, for the transit of animals and foot-passengers, for such reasonable rates of toll as may be approved from time to time by the secretary of war.

SEC. 2. That any bridge built under this act shall be constructed under and subject to such regulations for the security of navigation of said canal as the secretary of war shall prescribe; and said corporation or corporations shall submit to the secretary of war for his examination and approval a design and drawings of the bridge and a map of the location of the same giving the topography of the banks of the said canal, together with all other information, as may be required for a full and satisfactory understanding of the subject; and until the said plan and location of the bridge are approved by the secretary of war the bridge shall not be built; and should any changes be made in the plans of said bridge during the construction, such change shall be subject to the approval of the secretary of war.

SEC. 3. That any bridge built under this act and subject to its limitations shall be a lawful structure, and shall be recognized and known as a post-route upon which also no higher charges shall be made for the transmission over the same of the mails, the troops, and the munitions of war of the United States than the rate per mile paid for the transportation over the railroads and public highways leading to the said bridge, and it shall enjoy the rights and privileges of other post-roads in the United States, and equal privileges in the use of said bridge shall be granted to all telegraph companies, and the United States shall have the right of way for postal-telegraph and telephone lines across said bridge.

SEC. 4. That all railroad companies desiring the use of said bridge shall have and be entitled to equal rights and privileges relative to the passage of railroad trains or cars over the same, and over the approaches thereto, upon payment of a reasonable compensation for such use; and in case the owner or owners of said bridge and the several railroad companies, or any one of them, desiring such use shall fail to agree upon the sum or sums to be paid, and upon the rules and conditions to which each shall conform in using said bridge, all matters of issue between them shall be decided by the secretary of war upon a hearing of the allegations and proofs of the parties.

SEC. 5. That the corporations or persons owning, controlling, or operating the bridge authorized by this act shall be in attendance on the same at all hours, shall maintain at their own expense, from sunset to sunrise, and during heavy fogs, lights or other signals on said bridge, as the light-house board shall prescribe, and promptly open said draws upon reasonable signals for the passage of boats, vessels, and other water-craft.

SEC. 6. That the right to alter, amend, or repeal this act is hereby expressly reserved; and the right to require any changes in said structures at the expense of the owners thereof whenever congress shall decide that the public interests requires it is also expressly reserved.

SEC. 7. That this act shall be null and void if actual construction of a bridge hereunder authorized be not commenced within one year and completed within three years from the date thereof.

MUSKOGON.

On the opening of navigation this spring the Vessel Loaders' Union of this city fixed their wages at \$5 a day, the price they were receiving at the close of last season. The vessel owners in the Muskegon trade claim that the prospects for the season's business will not warrant them in paying this rate, and they have entered into an agreement, the substance of which is that they will let their vessels be loaded by the union at Muskegon only on condition that they, the owners, be allowed to fix the price per day and to say how many men shall be employed on each boat. They demand that thirty men be employed in the loading of such vessels as the T. D. Stinson, while for the Annie Laurie or C. Hickson there shall be fourteen. The wages are fixed at \$3.50 a day. It is further agreed by the owners that no one boat shall be loaded by union men as specified. The vessel men claim they were driven to this step by the outrageous demands made by the union. They say that unless they can have their vessel loaded upon the agreed basis they will either load them with their own men or tie them up to the docks.

The agreement is signed by the Soper Lumber Company, the S. K. Martin Lumber Company, the Chicago Lumber Company, and others. It is claimed that the wages demanded by the lumber-shovers at Muskegon are higher than those of any port on the lake. The barges in port are loading with their own crews, having brought extra men with them from Chicago. The union men claim that they were requested to fix a price for the season as would do away with any strike, or wage difficulty in midsummer and that they had done so. Last year they began work at \$4.50 per day and in July struck for \$5, which was granted them. They claim that \$5 a day is only fair wages, as they are often obliged to work overtime, for which they received no extra compensation and that their time is so broken that they do not average more than three days of work a week. They say the largest crew for loading a propeller is composed of twenty-five men and the smallest of eight.

The tug Joseph Goldsmith has been sold to the Reynold's Lumber Co. of Grand Haven and Sturgeon Bay, Wis. She is the most successful tow boat in the Green Bay country, and will make a good addition to the tug list of the Sturgeon Bay Canal, where she will be used in towing vessels and logs.

A SCHOONER DAMAGED BY FIRE.

The schooner George Suffell, class B1, owned by Captain Mullens, was badly damaged by fire at an early hour Monday. The vessel was tied up on the east side of Mill Island when the fire broke out. The brigade responded quickly, and with a lead of hose of seven hundred feet Hugh Thompson sculled the fireman in charge of the nozzle across the harbor, and in a very few minutes a strong stream was being thrown on the blaze. The hose stretched across the harbor was submerged in the water and with the hydrant only partially turned on, the firemen had plenty of water to fight the flames. The hull of the schooner was considerably damaged and as it filled with the water settled on the bottom. The Suffell was insured for \$1,500 in the North British and Mercantile, which will cover the loss. This is said to be an incendiary fire, the fourth in as many weeks.

"This is the time of the season when bets on the arrival of the first lower lake boat are in order. Those who have lived on Lake Superior for many years have discovered never failing signs by which the exact date of the first boat's arrival can be discovered. One of these old timers who has settled on the big lake forty years declared that the first boat would enter Duluth harbor within thirty days. He based his prediction on the fact that a bright flash of lightning was seen last night followed by a loud peal of thunder. He says that for forty years the first boat has never followed the first thunder storm later than thirty days. Those who have faith in this infallible sign can win any amount of money, for thirty days would make the arrival not later than May 4, which is an extremely early date for the opening of navigation." Port Arthur has enjoyed a flash or two of lightning and a peal of thunder, so no doubt, the "infallible sign" would apply to this place too.—Duluth Exchange.

A NOVEL ENGINE.

A well-known yachtsman in this city has just signed a contract by which he agrees to furnish the money for building a very novel sort of a steam engine. The inventor proposes to do no less than to construct an engine which will exhaust back into the boiler instead of into a condenser or into the open air. He proposes in other words, that when the piston has pushed through the full length of its stroke it shall then push the steam back into the boiler again. This sounds like the absurd proposition to build a perpetual-motion machine, but as the machine is explained by the inventor and the yachtsman it seems to be easily possible and perhaps practical. Because the practicability of the scheme has yet to be tested the yachtsman declines to allow his name to be used. The new machine consists of four single acting cylinders, placed two on each side of the shaft to be turned by them. The two cylinders on each side, according to the present drawings, will be placed horizontally and one above the other like the barrels of a double-barreled shotgun when the gun is lying on its side. The pistons in these cylinders are connected with the shaft in such a way that the piston in the upper cylinder on one side works in conjunction with the piston in the lower cylinder on the opposite side. Steam being admitted to either pair of cylinders, which thus act together, the pistons are forced out to the end of their stroke as in any single-acting engine, and the shaft revolves half a turn. At the instant these pistons reach the end of the stroke they are, by means of cogs, two cams and a link motion, uncoupled from the shaft and connected with each other substantially.

They then become, to all intents and purposes, one piston, with the steam from the boiler pressing equally on each side, and therefore balanced. The moment this happens the pistons of the other two cylinders are coupled to the shaft, and the steam sends them flying to the end of their stroke, thus keeping the shaft whirling, and at the same time showing the other pistons now equally balanced, to the heads of their cylinders. The second pair of pistons having completed their stroke, they are uncoupled, and in turn treated as the first pair were. The theory, the yachtsman says, is all right. But the intervention of cogs, link motion, and two cams may make the machine cumbersome, and, perhaps, of slow-motion. That it will be noisy is beyond dispute, but it is worth trying, the yachtsman thinks, to the extent of \$10,000 which the trial machine is likely to cost, because if the steam can be exhausted back into the boiler the loss from friction, radiation, etc., will be so small that from seventy to eighty per cent of the fuel now used to drive a steam engine will be saved.—N. Y. Sun.

MARINE HORSES.

"Are you the horse editor?" inquired an innocent-looking young woman, approaching the desk of that functionary.

"I have that pleasure, Miss" he replied, taking off his hat.

"Can you answer all sorts of questions about horses?"

"Well, I rather think I can," he said, with a prideful swell in his bosom.

"Oh, I'm so glad," she twittered. "Will you tell me the difference between a bay horse and a sea horse?"

As she went out of the office she smiled back at him, but he sat gloomily at his desk and said nothing.—Washington Critic.

We herewith take the liberty of partly answering the exchange quoted above:

A noble and gallant slip may ride peacefully on the bosom of the bay [horse.] But is frequently compelled to spill her choicest treasures in the lap of the sea [horse.]

The Northern Michigan line announce that their new boat, the City of Charlevoix, will be in service in a few days, and with the steamer Lawrence will ply between the ports of Chicago, Frankfort, Glen Haven, Charlevoix, and St. James. The Lawrence will be the first to leave Chicago for the season, and will start with freight and passengers on Tuesday evening at 8 o'clock.

According to Lloyd's Committee, and their secretary, Col. Hozier, we have the following important figures: In 1886 there were 4,920 steamers belonging to the United Kingdom actually employed, not including those working on rivers and inland navigation. Exclusive of masters, they employed 119,055 persons. The horse-power of these steamers was 1,006,218. From these figures the average tonnage of each vessel is 807, the total tonnage of the United Kingdom being 3,970,000; and the average number of persons employed in each is 24, and the average horse-power 204. A cargo steamer of 108 horse-power, consuming say, 14 tons of coal per day, would give an average consumption of about 7 pounds per horse-power per hour. Passenger steamers on the Atlantic or Cape lines would exceed this estimate.—English Paper.

Harper's Magazine for May is another proof of the determination of its conductors that in all respects it shall lead the other monthlies. One after one the names of the principal magazine writers of today greet the eye as the pages are slowly turned over, and their literary efforts are supplemented by the best artistic work of artist and engraver. Neither in variety nor excellence will this number be easily surpassed. The frontispiece is a portrait of Kinglake, the historian, and is of especial interest now that his work of thirty years, "The Invasion of the Crimea" has just been finished.

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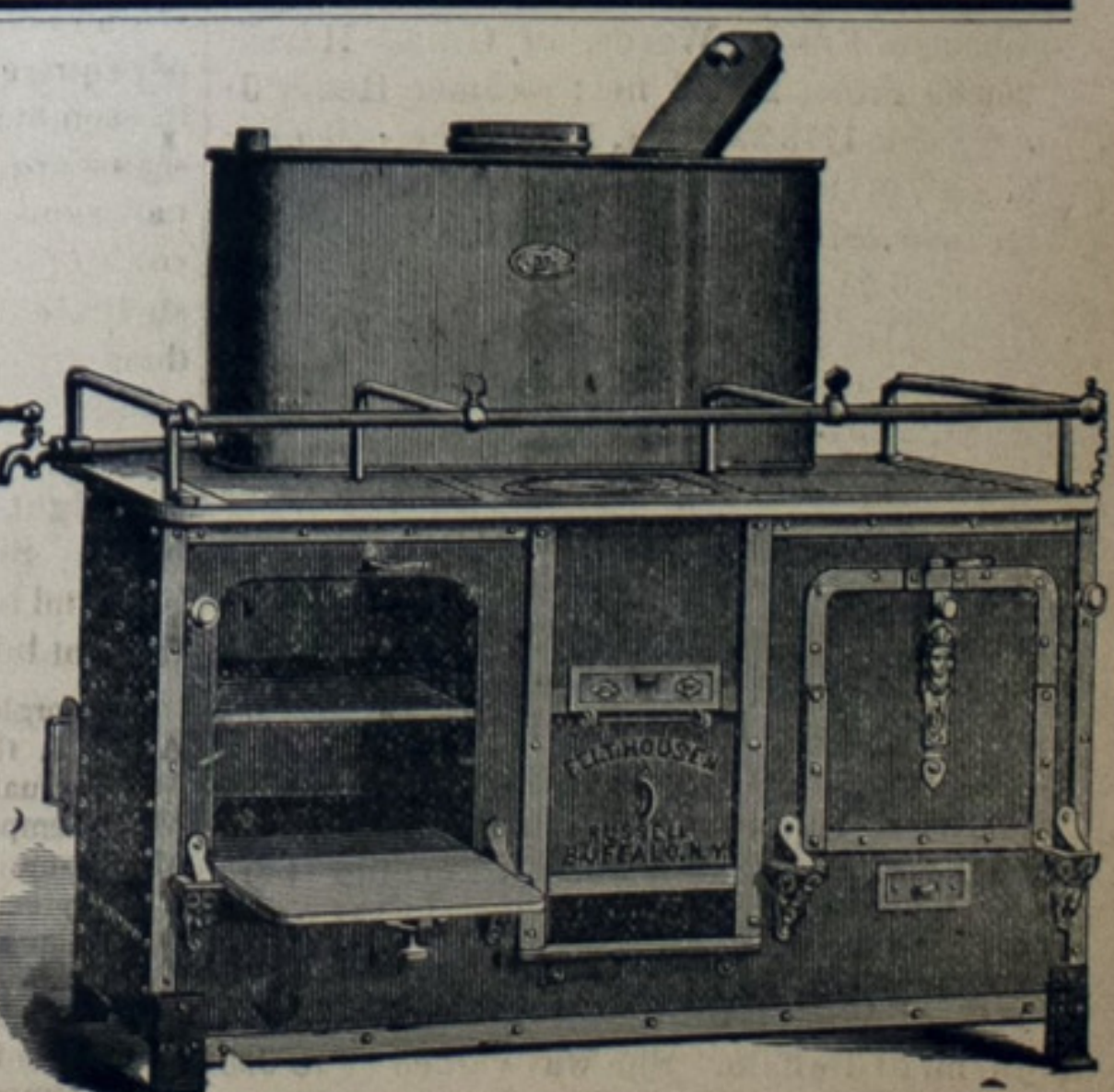
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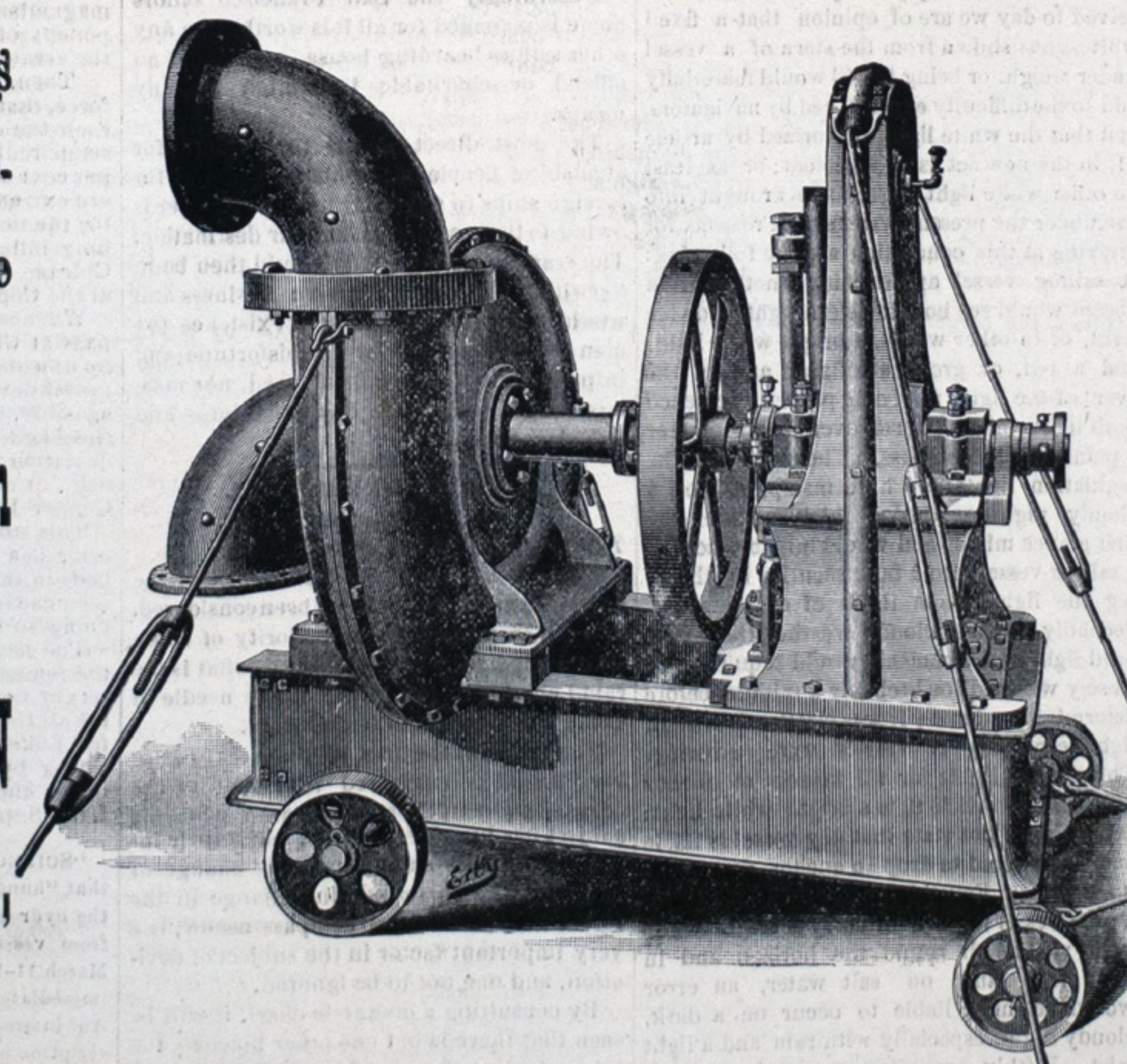
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MARINE RECORD—OFFICIAL PAPER.

NOTICE TO VESSEL OWNERS.

By resolution of the Cleveland Vessel Owners' Association, February 2, 1888, the assessment on the tonnage for 1888, custom house register, was levied the same as for 1887, viz: 3c per ton on steam and 4c on sail and consort. The secretary is not allowed to admit tonnage after the opening of navigation, therefore, all wishing to enter, should write or apply at once to

B. L. PENNINGTON, Sec'y and Treas.,
110 and 112 Water St., Cleveland, O.

PUBLISHERS NOTICE.

We take pleasure in asking the attention of our readers to the third enlargement of the MARINE RECORD inside of eighteen months. This week we have added two inches to the length of each column, which is equivalent to four columns of reading matter. We hope to see the RECORD a sixteen page paper before long.

THE FREE SHIP BILL.

We feel it to be our duty to call the attention of all interested in the welfare and commercial standing of the United States to the present attitude of the promoters of the free ship bill, who have engineered the measure along to the committee on shipping with a favorable report. The report embodying, as it does, the advisability of destroying large American industries can not be too severely condemned. It would not require a vast amount of reasoning power to prove that a mercantile navy ought to be constructed and equipped by the power and flag under which it is to sail; its paramount duty being to maintain the commercial relationship, and carrying trade of the industries of its own nation.

That the United States must eventually do this is an undisputed fact, and why not take this important step in the right direction now instead of putting off the inevitable to a future date.

In our opinion any legislation countenancing even a particle of the favorably reported free ship bill will act more especially in the future to the detriment of our power and prestige as a leading nation.

The generality of American citizens, even including those who have seldom or never paid the slightest attention to maritime affairs, would at once see the fallacy of having the construction of our national navy placed in the hands of, and entrusted to the integrity and skill of foreign workmen. Indeed, we will only require to take one more backward step and invite cheap, alien labor to construct our forts, arrange the

coast defenses, and having gone so far it will only be a slight concession on our part to further require that they remain and handle them. Should even the necessity arise in the dim and shadowy future? This is to the best of our knowledge exactly where the ship building industry of the United States would be in a decade from now if the suicidal and short sighted policy of buying foreign bottoms was to obtain a footing in our legislative code.

Hence it behooves all clear minded Americans to strenuously oppose any such invasion of the rights and future prosperity of this country, and our representatives should be given clearly to understand that any measure tending to pauperize thousands of good citizens and skilled mechanics, and involving the loss of millions of dollars of capital already invested must not be entertained or countenanced under any guise whatever.

ABOUT WHITE LIGHTS.

TREASURY DEPARTMENT,
BUREAU OF NAVIGATION,
WASHINGTON, D. C., April 21, 1888.

To the Editor of the Marine Record.

A proposition has been made and embodied in a bill now pending in the United States senate to amend section 4233, article 6, of the revised statutes of the United States, so as to require a sailing vessel under way, or being towed, to carry a bright white light over the stern, that will show unbroken over an arc of the horizon of twenty points of the compass, ten points on each side, namely, from right abait to two points forward of the beam on either side, and of such a character as to be visible on a dark night, with a clear atmosphere at a distance of two miles.

A copy of the international rules is transmitted herewith, embodying the existing law upon the subject, and this office will thank you for a statement touching the merits of the proposed modification of the rules, and especially setting forth such objection, if any, as may occur to you against the measure.

It should be observed that a white light is required to be exhibited upon vessels of the character above mentioned, under certain circumstances, such light already having a peculiar significance by virtue of the rules, and the object of this inquiry is particularly to ascertain whether the proposed amendment will lead to any material confusion or difficulty of any kind, either in the case of our own vessels, or as regards vessels of foreign countries which have not adopted the amendment, and may not be aware of the change here.

Consideration should be given to the question, whether the application of the signal heretofore reserved exclusively to designate stationary vessels, can be applied with safety to vessels that are in motion under all the circumstances that might arise, were the amendment to become law. For instance, if a sailing vessel showing the light should change her course to port, and a pursuing steamer should do the same under the impression that the vessel ahead was at anchor, might not both be endangered?

Your views are requested. Respectfully yours,
T. B. SANDERS, Acting Comm'r.

To The Commission of Navigation Washington, D. C.

Dear Sir:—In reply to your circular received to-day we are of opinion that a fixed white light shown from the stern of a vessel under weigh, or being towed would materially add to the difficulty experienced by navigators, and that the white light authorized by article 11, in the new act is all sufficient; or at least no other white light ought to be brought into use under the present system. Our reasons for arriving at this conclusion are the following: A sailing vessel approaching another from ahead would see both the stern light, and side light, or in other words, a bright white light, and a red, or green sidelight; and in the event of the lights not being properly screened both lights might be seen over an arc of 3 or 4 points of the compass. The above are the regulation lights for a steamship, and on a cloudy night or during thick weather the first glance might, and would lead an officer of a sailing vessel into a false security by thinking the lights were those of a steamboat. Secondly, in dark, cloudy weather the mast-head light of a steamship would require to be closely watched for probably a minute, before determining whether it was masthead, or stern light, especially if vessels were crossing. Thirdly, the lights for all vessels at anchor according to article 8, is a bright white light; and we need not state that any vessel is liable and empowered to drop an anchor just where it suits her. Fourthly, according to article 9, a pilot vessel requires to carry a bright white light visible all round the horizon and in with the land on salt water, an error would be most liable to occur on a dark, cloudy night, especially with rain and a light mist. Fifthly, according to article 10, sec. E, the same bright white light is exhibited, perhaps just in a locality where navigators would be least likely to expect to see a vessel at anchor, and consequently would surmise a case under one of the previous headings. Sixthly, article 13, allows open boats to exhibit a bright white light, and although this light may only be exhibited in the vicinity where an open boat may be expected to be, still the iron bound rules of a law might justify an officer of a ship in holding on to satisfy the legality of his actions up to the point of a sacrifice of life.

Should any farther particulars be required we would feel it an honor to be favored with your commands.

While there are so many reasons against

exhibiting any other white light, we would also like to mention the number of fixed white lights on lighthouses, and a navigator dropping in with the land unexpectedly might hesitate on first sighting the light to change his course, consequently involving life and property to great danger. In connection with this inquiry we would wish to state that a thorough inspection of the sidelights and the proper adjustment of light screens would materially diminish the risks of collision.

SAN FRANCISCO SHIPPING.

In a recent communication from the Liverpool Journal of Commerce, the management of the San Francisco sailors' home, is rather severely criticized and an inquiry in the interests of seamen is said to be needed. We would like to say in connection with this question that when seamen sign articles in an American ship, the articles are carefully read over by the United States shipping commissioner to the men, and should proper settlements not be made or any dispute occur previous to, or on the day of sailing, the commissioner will see the men righted before allowing the vessel to sail.

This being much the same custom as prevails in British ships using the port of Liverpool, we can hardly understand where the necessity for an official inquiry comes in. In any case neither the society who are interested in the sailors' home, or Mr. Swannick, their manager, need be troubled for particulars relating to the shipping of American seamen at the port of San Francisco while the United States has a qualified official there whose duty it is to attend to the interests of our shipping community. Of course any agreement, seamen may make outside of the official lines, is a personal matter with the men themselves, and why the fourteen men of the American ship H. B. Hyde should sign their names to a book or document, without knowing the contents passes belief.

Our opinion is that if men are so entirely devoid of common sense as not to be accountable for their actions while in port, then no amount of legislative safeguards could or ought to protect them from the consequences of their own deliberate acts.

Notwithstanding the above, we readily admit the terrible amount of bulldozing and roguery in all of its branches that has been carried on in connection with crews of vessels in San Francisco; at the same time we are equally certain that an improved and honest official system obtains there to-day, and if men were to exercise a small amount of common sense they need never be robbed of a single dollar, when shipping in an American vessel, especially from a home port.

The whole trouble lies at the door of the shipping master, the boarding master, and their satellites, and just as long as a sailor's head is worth \$5.00, the sharks will be after him just as smart in San Francisco, as elsewhere, and perhaps a trifle smarter, for they have a larger field and a choice monopoly of the business.

Accordingly the San Francisco sailors home is managed for all it is worth, like any other sailors boarding house, and not as an official or charitable institution by any means.

The most direct means to be used for abolishing people of the above stamp is for foreign ships to pay their lands whatever is owing to them on arrival at their destination. The seaman having funds would then be in a position to transact his own business and would positively crush out of existence the men who live on and by his misfortune and ships would no longer be delayed, nor masters obliged to knuckle down to crimps and sailor's robbers.

COMPASS DEVIATIONS.

PERRYBURG, April 16.

To the Editor of the Marine Record:
There is one source of disturbance of the magnetic needle that has not been considered, or even suspected, by the majority of those who navigate the great lakes, and that is the rapid change in the "dip" of the needle in going from the south to the north.

The fact that the area of these lakes is so very small as compared with that of the oceans, is, doubtless, one reason why this subject has been overlooked; but a little investigation will show that this change of dip, with the corresponding change in the forces that act on the compass needle, is a very important factor in the subject of deviation, and one not to be ignored.

By consulting a magnetic chart, it will be seen that there is but one other place on the whole face of the earth that has the lines of equal dip, and equal horizontal force so close together as in the United States, and that is Australia.

When we recollect that the magnetic pole is directly between us and the geographic pole, and that the stronger of the two northern magnetic force is between us and the magnetic pole; that thereby the change of the magnetic forces due to a whole quadrant of latitude are embraced within at about three-quarters of a quadrant, we may not be surprised at the rapid rate of change in the magnetic forces that actuate the compass-needle.

Chicago is in magnetic latitude about 72° 30' N., while the Copper Islands in the extreme northern part of Lake Superior, are

in about 77° 30' N., a change of 5° in magnetic latitude. These 5° of magnetic latitude embrace about 6½° of geographic latitude, on the meridian of the center of the great lakes, or, say, the meridian of 87° W. of Greenwich while the same lines of equal force, embrace between 18° and 19° of geographic latitude on the meridian 100° W., passing through the eastern part of the Atlantic ocean. That is to say, on the eastern Atlantic, we would have to sail over three times as much latitude as on the lakes to get a given amount of change in the magnetic forces that act on the compass needle. This change of dip means that if we trim a compass card, by means of the movable weight on the needle, to float perfectly level, say, at Chicago, it will have a dip of about 5° to the north on arriving at the Copper Islands, thereby causing the needle to "wabble" badly in a seaway.

But there are other and more serious meanings than this attached to this change of dip. As the dip increases from the magnetic equator, going towards the pole, the horizontal or directive component of the earth's magnetism diminishes, till, at the magnetic pole it is nothing. This directive force falls off as the cosine of the magnetic latitude, or as the cosine of the dip-angle; whence, at the Copper Islands, the directive force of the earth's magnetism is only about 72 per cent of that at Chicago.

It is well known that the principal part of the disturbance of the needle on board ship is due to the fixed or hard-iron magnetism of the iron in the ship, together with the magnetism induced in the iron by the vertical component of the earth's magnetism. These two elements, when in the same kind of latitude as that in which the ship was built always conspire to produce the semicircular part of the deviation of the compass needle, and which is the principal part. The intensity of the magnetism induced by this vertical component varies as the tangent of the dip angle. Whence, the disturbance due to this cause, at the Copper Islands would be to that at Chicago, as 4.51 to 3.17; or, what is the same thing, this disturbing force at the Islands will be 42 per cent greater than at Chicago.

With regard to the fixed or hard-iron magnetism of the ship, it is known to remain constant, or nearly so, for a long time, while the directive force is variable, as we have seen. Hence, the smaller the directive force, the greater will be the effect of the constant force of the hard iron. In other words, the deviation due to the fixed magnetism of the ship varies inversely with the force. Hence, from the diminution of the directive force to 72 per cent we get an increment of about 39 per cent to the disturbing or deviating force.

With regard to the relative amount of the semicircular deviation caused by each of these two forces, it is known that the fixed or hard iron magnetism in vessels built entirely of iron, produces the greater amount; while in wood-built vessels with steam machinery, particularly those, on which the compass is exposed to the repellant magnetism in the lower end of the smoke funnel, the magnetism induced by the vertical component of the earth's magnetism produces the greater amount of semicircular deviation. Then, combining these two changes of force, that disturb the needle, and giving to each the credit of effecting the half of the semicircular deviation, we have 39 + 42 = 81 per cent of the disturbing force at the southern extremity of the lakes, as an increment for the northern extremity; i. e. the disturbing influence of the ship's magnetism at Chicago being 10 deg., it would be 14 deg. at the Copper Islands.

Whereas, if we should compensate a compass at Chicago for a deviation of 20 deg., no unusual amount, over and above the quadrantal deviation that never varies in amount sensibly, and which is not compensated by the magnets that compensate for semicircular deviation; this compass would be in error 8 deg., or nearly ½ of a point, on reaching the Copper Islands.

This trouble with the needle on Lake Superior has been attributed to extensive iron beds in the bottom of the lake; but we have seen cause enough for the trouble, without going so deep.

The cause of the trouble being pointed out, the remedy is easy. It lies in providing two sets of deviation curves, or cards. One say for all the lakes below the Straits, the other for Lake Superior. Or possibly by compensating by opposing magnets for the lower lakes, and providing deviation curves for Lake Superior.

H. C. PEARSON.

"SCIENCE" is authority for the statement that "hundreds of reports have been received at the hydrographic office of the navy department from vessels that experienced the storm of March 11-15, more than 70 of them from vessels immediately off the coast of the United States.

An interesting feature of the latter is the description of the use of oil to calm the waves." Over a dozen captains caught in the storm at its worst attribute the saving of their vessels to the use of oil. The captain of the "Iroquois" says: "The furious wave would be coming down upon us with an immense comb, threatening to swamp us; but when it encountered a patch of oil no larger than a dining room table, its top would be rounded, and there would not be even a wind ripple upon it, and the yacht would bob over it like a gull."

"Science" says that there was nothing in the shape of new discoveries in these instances, but only confirmation of the opinions heretofore held about the use of oil for the purpose a gested. It is admitted by both English and French naval officers that the hydrographic office of the United States navy is entitled to the credit for forcing the attention of mariners all the world over to this method of stilling troubled waters.

LAKE CARRIERS' ASSOCIATION.

TO CONSIDER AND TAKE ACTION UPON ALL GENERAL QUESTIONS RELATING TO THE NAVIGATION AND CARRYING BUSINESS OF THE GREAT LAKES AND THE WATERS TRIBUTARY THERETO, WITH THE INTENT TO IMPROVE THE CHARACTER OF THE SERVICE RENDERED TO THE PUBLIC, TO PROMOTE THE COMMON INTEREST OF LAKE CARRIERS, AND PROMOTE THEIR GENERAL WELFARE.

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MARINE RECORD—OFFICIAL PAPER.

THE WATER LEVEL.

Mr. T. J. Whiting sends from Washington to the secretary of the Lake Carriers' Association a copy of the following letter and addendum, written by Gen. O. M. Poe to the chief of engineers, in relation to the fluctuations in the stage of water on the lakes, and the best means of giving the navigable depth of twenty feet. The addendum to the letter makes it clear that there is nothing in the "mysterious septennial rise and fall" theory:

UNITED STATES ENGINEER'S OFFICE,
DETROIT, Mich., Feb. 7, 1888.

To the Chief of Engineers U. S. Army, Washington, D. C.:

Sir: In compliance with instructions conveyed by indorsement dated February 2, 1888, upon the letter of Hon. C. H. Grosvenor, of the 31st ult., transmitting to the office of the chief of engineers a communication from Mr. George W. Blasdel, dated January 25, 1888, suggesting that instead of expending further sums upon the improvement of navigation on the lakes by the present system, the outlets of the several lakes and their communicating rivers, be sufficiently obstructed to raise the water surface to the level required to give the projected navigable depth throughout, I have the honor to submit the following report:

At first sight the proposition is rather an attractive one, but upon further consideration the objections to it appear, and increase in force the more it is discussed.

To be of any value the result of the obstructions should be an increase of at least four feet in the elevation of the mean surface of the water in each lake. The immediate effect of this would be to overflow very extensive and valuable lands now dry; flood most of the wharves and docks, and even many buildings, such as elevators, freight depots, etc.; set back the water in nearly every affluent of the lakes so that such streams as Buffalo creek, Cuyahoga river, Detroit river, Milwaukee river, and scores of others which drain cities or towns would become merely stagnant pools, so offensive as to be unendurable.

Admitting that the water surface could be raised sufficiently by dams, with canals around them, built at the outlets of the several lakes, there would still be no assurance that the resulting conditions would be beneficial to the marine interests, although they would surely be very injurious to every other.

The shore lines of the lakes might be so greatly changed as to destroy some of the harbors now available for commercial purposes, and open up new ones, the use of which would be compulsory. For instance, what would be the effect upon the harbor of Duluth if the surface of Lake Superior were raised sufficiently to cover the long point of sand which now separates it from Superior Bay? Only a survey of the shore lines of the several lakes, in minutest details, would furnish the data requisite for an intelligent opinion on the subject.

And if the cost of the requisite dams and canals (for a canal around each dam would be imperative), be added to the damages to land, buildings, wharves, etc., arising from flowage, and to the enormous sums that cities and towns situated upon affluents within reach of the backwater would have to expend to secure drainage, the aggregate will many times exceed the amounts heretofore expended or yet to be expended in improving the lake harbors and rivers to a navigable depth of twenty feet.

Respectfully submitted,

O. M. POE,
Lieut. Col. of Engineers,
Bvt. Brig. Gen. U. S. A.

Addendum to the letter of 7th February 1888.

There is no indication, anywhere, that the waters in the lakes have mysteriously fallen. The long continued series of observation now available show that since 1838 the water level has fluctuated within limits somewhat less than six feet, and that these fluctuations were due to the greater or less rain and snow fall. It may be considered as a fact established, that the lakes are simply great pools forming part of the course of a river, and that they conform to all the laws governing the rise and fall of rivers.

The observations alluded to also show that there is practically no difference of level between the inlet and outlet of any one of the lakes. That is to say, that in a state of rest the surface of the water in each lake is level. But the surface is greatly affected by winds, variations in barometric pressure and other extraneous phenomena.

O. M. POE.

THE HENRY J. JOHNSON.

On Saturday at 3 o'clock the Cleveland Drydock Co., will launch one of the finest modeled wooden boats ever built at this port. This finely built boat is 261 feet 4 inches keel, 277 feet 4 inches over all, 40 feet beam and 21 feet depth of hold, her frames are 18 inches in the breach and 17 inches in the bilge her extra floors are 5 inches, main keelson 16 by 16 inches, two sister keelsons 14 by 16, two rider keelsons 14 by 16. She has stanchions in the center and 2 stanchions at each hatch, with iron knees at the bottom, her floor keelsons are one 13 by 14, one 12 by 13, one 11 by 12, one 10 by 12, these set against the bilge keelsons, of which there are two strokes 9 by 10 and three strokes 8 by 10. Her ceiling is 6 inches to her upper decks, and her lower shelf pieces are 15 by 5 inches and 15 by 4 inches, her upper being 15 by 5. She has two strokes of steel arches inside 16 by 3/4 inches, with 4 butt straps 16 inches square 24 hot rivets in each butt arch. These arches run from the under side of rail of upper deck to 10 feet aft of the engines and within 10 feet of the stem; each arch has four countersunk headed bolts, through each frame; she has seven hatches and four spars, her cabins are commodious and very nice, the after cabin finished in mahogany and forework and forward cabin in cherry and ash, which make her look very neat and comfortable. Her engines are a fore and aft compound, cylinder 28 and 50, by 42 inch stroke; she is fitted out with two fire box boilers 11 by 14 feet allowed 115 pounds of steam to the square inch. She has a 11 foot wheel with 14 feet lead all of which were manufactured by the Globe Iron Works Co., of this city.

The steam capstan and windlass furnished for this vessel is from the American Ship Windlass company, and the steam steering apparatus from Williamson Bros., Philadelphia, Pa. She has passenger bulk heads, fore and aft, ironed over, and two extra pump wells. This boat has the longest planking of any boat ever built in this city, having two pieces of stringer 83 feet in length, her main-rail is 15x5 inches and has two pieces on either side 72 feet long; also four pieces on each side 66 feet long. She has a center house for deck hands, and an iron boiler house for boilers; her sheer is five feet forward and four feet aft, her garboard stroke is 6x18, and the rest of the planking is 5 inches except the wall stroke, which is six inches in thickness. This vessel has been pronounced by experts to be one of the finest modeled wooden boats ever built in this port, and is as strong as wood and iron can make her. Much of the credit is due Messrs. Drackett & Presley, Mr. Drackett being superintendent of construction and Mr. Presley looking after the interests of the owners. Between them they have succeeded in producing a boat excelled by none on the lakes. Her tonnage is 739.39 gross and 1443.06 net. She will be commanded by Capt. J. C. Thompson, last year master of the H. A. Tuttle, and Mr. Charles Gumlek will be chief engineer. S. W. Gould will be chief mate, and Thomas Shannon will be second engineer. No expense has been spared to make this boat equal to any on the lakes in every detail. She is provided with every improvement to insure dispatch and safety and which will facilitate her management. That she will fulfil the expectations of both builders and owners there is little doubt.

THE YACHTING SEASON.

A meeting of the Interlake Yachting Association was held at the C. Y. A., rooms last Saturday, to arrange the preliminaries for the summer regatta. It has been decided to hold the regatta at Put-in-bay. All hopes of our having it here at Cleveland being vanquished. The following members of the association were present; Commodores Albertson and Whitney, and C. D. Joslin of the D. Y. C.; Commodores Ketchum and Bills, and E. E. Kirk of the O. Y. C. of Toledo; Secretary Wm. M. Belmont, of the T. Y. C.; Geo. Beebe, of the Put-in-bay Yacht Club; Commodores Gardner and Kelly, Surgeon C. C. Arms, Lee McBride, and W. Scott Robison of the Cleveland Yachting Association. Commodore Gardner presided, and E. E. Kirk was chosen secretary pro tem. The meeting is to be held the second week in July, and all yachts intended for entrance in any of the races, which will be held daily during that week, are ordered to report Monday morning of July 9. An interesting discussion arose concerning time allowance. Commodore Kelly suggested that the New York Yacht Club's rules, or the Herreshoff system be adopted. In accordance with this system sail areas are to be considered in the measurement of vessels rather than hull areas. The following classification of vessels was finally agreed upon, water line measurement:

Class A—45 feet and over; Class B—35 to 45 feet; Class C—30 to 35 feet; Class D—25 to 30 feet; Class E—20 to 25 feet; Class F—20 feet and under.

There has been some doubt about the Wasp Cup race, although nothing has been mentioned in any meeting as yet. We hope Commodore Gardner will hold to his resolution in regard to having it in this city.

The next regular meeting of the Cleveland Yachting Association will be held Wednesday

day evening, May, 2, at the club rooms in the city hall.

The C. Y. A., a new dock for launching their boats, is very near finished. Its dimensions are about 6 by 30 feet, and will be on an average 2 feet above water.

The Unique was launched April, 22. She rides as easy as ever.

The cutter Eole has had some inside work done, and a very nice cabin top put on, which will add a great deal of beauty to her when finished.

The sloop Lanthé will be launched about May 6. Her anchor was sunk in the breakwater for this season April 22.

Frank Smead also placed his anchor in position last Sunday, but it seems he is in no hurry to rig the Lady Ida.

In our issue of April 12 the remark referring to Lyman Bros. new yacht, being built after Com. Kelley's design is all wrong. She is their own design, and judging from past productions by these gentlemen, she will be well built and a flyer. Com. Kelley's yacht on paper is very similar, to which fact, our error of last week is due.

Lyman Bros. have a number of new row boats ready for the fishing season. They will no doubt come in very handy, as their trade is increasing from year to year.

The iron schooner yacht Sea Fox was successfully launched last week from the yard of the Harlan & Hollingsworth Co. The Sea Fox measures 39.5 feet in length, 23.2 feet beam, and 14.4 feet depth. Several yachtsmen were present, among them Mr. Canfield, owner of the new boat, and Mr. Busk, owner of the Mischief.—The Seaboard.

THE STRAITS.

Special to the Marine Record.

Some person who is sadly deficient in horse sense telegraphed from Cheboygan the 11th to the Inter-Ocean that a complete breakup of the straits could be expected within a week. We do not know what anybody can be thinking of to send such a report. It is a good thing for vessel men that they place no confidence in such wild reports or they would have their vessels up here a month before they could get through. It is a notable fact and one that is acknowledged by Cheboygan papers that the reports sent out from there for publication are always exaggerated. The ice remains solid and with the most favorable weather it will be impossible for boats to get through before the 10th of May and we would not be surprised if the straits were not open until the 20th. We have had no warm weather yet to rot the ice. There are snowdrifts right here in town that are six feet deep and they are where the sun shines on them all day too. There are several inches of snow and slush on top of the ice and until that melts and runs through the sun will have no effect on it.

That marine wonder, the St. Ignore arrived in the straits via the North Channel Tuesday evening. It was not calculated to start her out again until Thursday but the Algonah got stuck in coming over Tuesday night and the St. Ignore started out from St. Ignore the next morning to release her. In just one hour and a half from the time she left St. Ignore, she had released the Algonah and forced a passage to this place, breaking ice from two to three feet thick the whole distance. After reaching here she had a chance to show what she could do in piled ice. To reach her ship she had to work her way through a pile of ice several hundred feet wide and piled up to the bottom a depth of from 20 to 25 feet, she worked through it with all ease and demonstrated the fact that the ice can not pile up in the straits so badly but what she can work her way through it. Frank Kirby, her designer, was on board of her and was very well pleased with her. He says he doesn't know when he could make any improvement on her. About four inches of snow has fallen to-day but it is getting warmer to-night and will likely turn to rain.

Hon. Richard C. Parsons, who has been representing the Vessel Owners' Association at Washington, is in the city for a few days this week. Mr. Parsons work while at Washington has resulted in much good, and he has the thanks of marine men.

Mr. Nutting introduced the following bill: To amend an act entitled "An act to aid vessels wrecked or disabled in the waters contiguous to the United States and the Dominion of Canada," approved June nineteenth, eighteen hundred and seventy eight.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That an act entitled "An act to aid vessels wrecked or disabled in the waters contiguous to the United States and the Dominion of Canada," approved June nineteenth eighteen hundred and seventy eight, be, and the same is hereby, amended so that the same will read as follows: "That Canadian vessels and wrecking appliances may render aid and assistance to Canadian or other vessels and property wrecked, disabled, or in distress in the waters of the United States contiguous to the Dominion of Canada: Provided, That this act shall not take effect until proclamation by the President of the United States that the privilege of aiding American or other vessels and property wrecked, disabled, or in distress in Canadian waters contiguous to the United States has been extended by the Government of the Dominion of Canada to American vessels and wrecking appliances of all descriptions. This act shall be construed to apply to the Welland Canal, the canal and improvement of the waters between Lake Erie and Lake Huron, and to the waters of the Saint Mary's River and canal: And provided further, That this act shall cease to be in force from and after the date of the proclamation of the President of the United States to the effect that said reciprocal privilege has been withdrawn, revoked, or rendered inoperative by the said Government of the Dominion of Canada."

[Around the Lakes Continued from 1st Page.]

first loaded vessel that passed down St. Clair river this season.

The Sam Crawford is receiving a new spar at Danford & Alverson's yard.

The Steamer Darius Cole will begin her regular trips to this city this week.

Captain Thos. Mathews, of this city, has purchased the schooner Fleetwing for \$5,000.

The three masted scow Crawford is already for sea. Her sails are all bent and everything in shape.

It is estimated that \$100,000 worth of repairs has been done to vessel property in this city during the past winter.

The tugs Spencer and Cheney are both lying between the city bridges in Black river receiving a fresh coat of paint.

The steamer City of Alpena, will arrive here on her first trip up for Mackinaw, Monday afternoon about 4 o'clock. She will stop at Jenks Bros. dock.

John Nesbitt of this city, has contracted to deliver 35,000 tons of coal for the Grand Taunk railroad, at Point Edwards, from Cleveland, at 65 cents per ton.

The steamer Darius Cole will go it alone upon the Detroit and Port Huron line this season. She will be opposed by the steamers Idlewild and Milton D. Ward.

MT. CLEMENS.

Special to the Marine Record.

The work in the new barge for the Tonawanda barge line is progressing very rapidly, she is all planked inside and more than one quarter planked outside.

The Sakie Shepard has already made one trip with lumber from Au Sable to Mt. Clemens. The Atlantic and Ruby have also left on their first trip.

Mr. Wm. Fleumer, of this port, has purchased one-half interest in the steamer barge Ruby, from Captain John Mitchell for \$5000.

The steambarge City of Mt. Clemens, left the 23 inst. for Oscoda where will carry lumber from that port to Detroit.

SAUGATUCK.

Captain John Martel has commenced building a freight and passenger steamer, 130 feet keel, 28 feet beam, 8 1/2 feet hold, for Griffin & Henry, John Nies, Captain D. Cummings and himself. She is to be completed by April 1st. Captain R. C. Britain's new steambarge Frank Woods, which was launched late last fall, will leave next Saturday on her first trip. Captain Richard Ames will command her and John Parks will be engineer. She will carry 275,000 feet of green lumber.

James Elliott, ship builder, is building a passenger and freight steamer 120 feet long for R. C. Britain. She is up in frame.

The new passenger and freight steamer Pilgrim, built here by Rogers & Bird, is considered a splendid boat, well worthy of her builders and owners.

RACINE.

Special to the Marine Record.

The fleet of vessels wintering here have all fitted out and the schooner J. B. Newland, Captain Anderson, sails this morning for Muskegon for a load of lumber. The Peoria, Captain Masten, for White Lake; the Simmonds, Captain Wilson, for Pentwater, and the Josephine Dresden, Captain Olson, for Ludington for slabs. These are the first sail departures for the season.

The steambarge Seymour, has arrived from Otter Creek with hardwood lumber for the Chicago market.

MANITOWOC.

The new steambarge, built by H. B. and G. B. Burger, of this place, for Seymour Bros., of Manitowoc, was launched at 4 o'clock Friday afternoon. She is one of the strongest built propellers on the lake. Her dimensions are 170 feet keel, 30 feet beam, 185 feet over all. Her engine is a fore-and-aft compound, 22x36 and 40x36. Her cost will be about \$80,000. She will be named Petrosky, and will be commanded by Captain Fred Seymour, of Manitowoc, from which place she will sail. Leopold & Austrian, of Chicago, will be Captain Seymour's agents at that port. The Petrosky will run between Chicago and Harbor Springs, stopping at Ludington, Manitowoc, Frankfort, Traverse City, Charlevoix, Elk Rapids, and Petosky. She has eighty-four sleeping berths for passengers.

MILWAUKEE.

The Northwestern Fuel Company is about to secure an injunction to prevent Wolf & Davidson from launching the big steamship Thomas Davidson in the slip between the shipyard and their coal yard. The Davidson is nearly completed, and the arrangements were such as to launch her in the slip where the Wolf was launched last summer. By the falling of one of the fuel company's sheds during the launch of the Wolf two persons were killed and many others injured. As a result of the accident a suit brought by the fuel company to recover from Wolf & Davidson the amount of the damage is now pending. The fuel company's claim is that the accident was caused by the rush of water, while the shipyard company claims it was due to the overweight of the people on the sheds. Wolf & Davidson will make a strong legal fight on the injunction.

DULUTH.

This week the launch tug J. L. Williams of the Inman line being freed from ice attempted to get out of her berth behind the Record, and got into the bay to break ice. Owing to the narrowness of the channel and the cramped position of the boat she was unable to get into the harbor, but will probably do so to-morrow. She was unable to move more than a few feet. If the boat can get about and point for the open harbor

there is no doubt that she will easily break up and clear a passage all through the harbor.

Although it can hardly be said that navigation is open it can be said truly that the first boat has moved and that the first tug ride of the season has been enjoyed.

Commodore Inman with the handsome pleasure steamer Ossifrage has started on his way to Duluth and is now as far as Port Huron. It is his intention to have the Ossifrage the first arrival of the season. Besides his fine fleet of four good tugs, the fire boat and the Ossifrage he intends to have, if possible, two additional lake tugs in his line here before the close of the season.

David Caribou, who is perhaps the best known Indian guide in the country, is in the city, having just arrived from the north shore. He says that the lake was frozen over entirely from Port Arthur to the Wisconsin shore; and that several trips were made by Indians across on the ice. This has never occurred before in the memory of man. The great flood was broken up by the storm of March 1, and beyond Beaver Bay there is little or no ice.—Duluth News.

PORT HURON.

Special to the Marine Record.

Peter Wittem, the mate of the schooner Newsboy, fell into the hold of the vessel and broke his leg near the ankle. He was sent to the hospital and home where it was set by Dr. Farnum, United States surgeon here.

The tug Cheney, left for Oscoda, with the barges Burnside and Bracker, to load lumber for Detroit.

The Newsboy is in drydock; when she comes out she will be in as good shape as new.

The D. F. Rose, received a new Trout wheel at Wolverine drydock.

The Canadian propeller Africa, has been compounded at Sarnia, and will receive a new Trout wheel. Tug Jessie, also having a new boiler compounded at Sarnia.

Captain McPherson, is fitting out the Excursion steamer Ossifrage here. C. M. Green is doing the artistin work.

Captain Inman, will remove his family to Duluth, on the Ossifrage. Where they will make their future home.

JIM.

GRAND HAVEN.

The fine large steambarge Chas. A. Street was launched Saturday. The new boat will go into the lumber trade on Lake Michigan. The following are her dimensions: Keel 160 feet, beam 31 feet, hold 12 feet, over all 176 feet; rate A1. Her capacity is 650,000 feet of lumber, and she is valued at \$40,000. She is thoroughly strapped with steel, and is considered as good a boat as was ever launched in this river. The Street is owned by Davidson & Holmes and Captain Lang, of Chicago. The latter will sail her.

The steamer Oscoda, which generally appears early in the season, and is a steady visitor a little oftener than once a week during the summer, arrived Monday. She brought the first cargo of lumber, unloaded, and left again Monday night with oil, etc.

LIFE SAVING APPLIANCES.

April 17.

To the Editor of the Marine Record:

Referring to the letter of "Ex-Surfman," in your issue of March 29 last, please allow an ex-keeper, who served at \$400 per annum, to say a few words. Ex-surfman takes exception because General Superintendent Kimball asserts in a letter to you, that "the wonderful record of the service is due to the fact that the stations are provided with the best means for doing the work."

It would seem to me that that sentence would apply equally as well to the crews as to the equipments of the stations. If ex-surfman will look over any of the annual reports of the life saving service when all the operations of the service are reported, he will find in the general superintendent's concluding remarks something like this: "The record of the year reflects the greatest credit upon the superintendents and inspectors of the several districts for the high state of discipline and efficiency they have maintained within the limits of their charge, and also, upon the keepers and crews of all the stations for the unflinching gallantry, fidelity, and ability which has signalized their efforts upon so many occasions of service and rescue."

As to the pay for keepers and surfmen, Mr. Kimball was on deck in 1879, when keepers pay was increased from \$200 to \$400 per year, and again in 1882 when there was a further increase to \$700 per year, and of the surfmen from \$40 to \$50, per month. He was instrumental in bringing about these raises, and he has always had his weather eye peeled, for the best interests of all, and I think I am safe in saying that just so soon as he sees there is any show, he will favor a further increase.

As to the great amount of work performed by crews, such as "building ducks, walks," etc., my experience has been that the crews, generally, would rather have something to do in that line than only put in about one hour per day in some drill or exercise.

From ex-surfman's fling at "drills," "work" and "changes in maneuvers," "scrub brooms and saws," etc., I would judge that he does not like work much, in fact, that he is one of the sooner kind, sooner have a good old fashioned growl than do a little work. Personally, I am in favor of seeing an increase of pay for keepers and surfmen, and I believe it will be had just as soon as public opinion is educated to the needs, and the great amount of good work the life-savers are doing so well and faithfully.

EX-KEEPER.

NEEDS OF BUFFALO HARBOR.

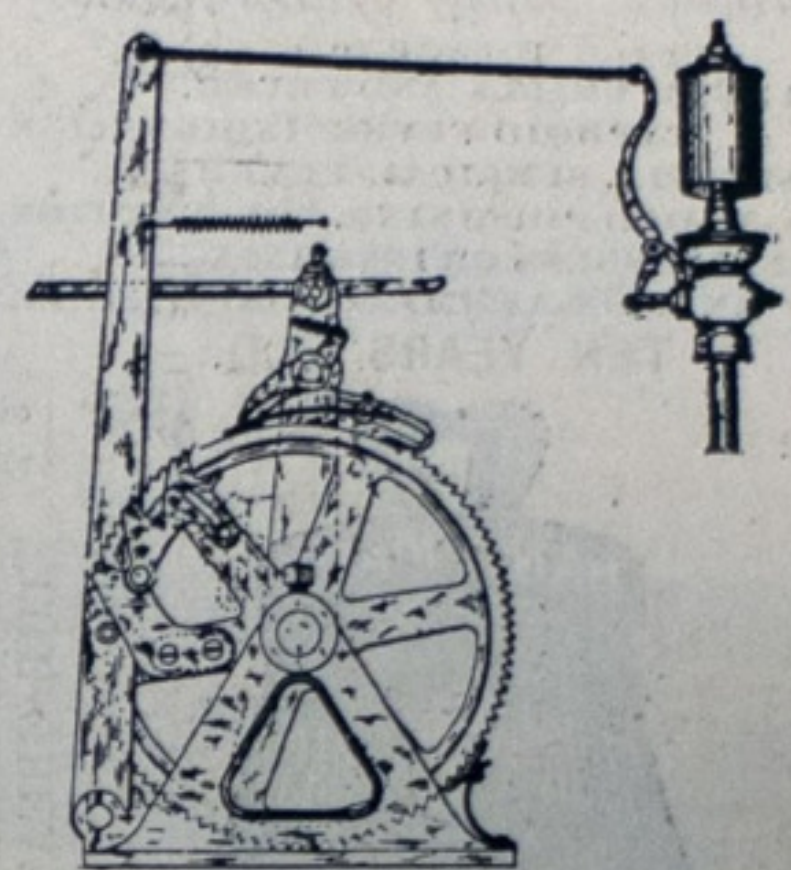
The annual report on the improvement of the harbors from Erie, Pa., to the St. Lawrence for the year ending June 30th, last, is a very comprehensive document, as it takes up each harbor in detail. A large diagram is given of the harbor work at Buffalo, with some valuable statistics. By far the larger part of the report is that Captain F. A. Mahan of the city, who is in charge of these ports. From his report the following extract is made concerning Buffalo Harbor:

"The original project for the improvement of this harbor was adopted in 1829, the date of the first appropriation, and, as modified at various times, provided for the construction of piers on the north and south sides of the mouth of Buffalo Creek, a masonry sea-wall running south from the inshore end of the south pier, and a breakwater less than half a mile in front of the Buffalo light-house, its long arm being nearly parallel with the shore.

THE CHASE FOG WHISTLE MACHINE.

The dangers attending fogs on the lakes are well known to all our sailor men, and all know that the regulations require that, during fogs, a signal shall be sounded at regular intervals. Under the old system of fog signals, the service and close attention of a man was required at all times while navigating in a fog, and this service became so monotonous that Mr. Chase, engineer of the steamer Ohio, devised and patented a machine which, when attached to the engine, would sound the fog whistle automatically.

The cut shows the position of the machine, and its action on the whistle.



During the season of 1887, the following named steamships, thirty in number, were supplied and equipped with our machines. The same having given entire satisfaction in each and every case, we refer with pleasure, all those interested, to the owners and masters of said steamers:

Wilson Transit Line, Cleveland, O.—Steamers Spokane, Wallula, Kasota, Tower, Yakima, Missoula, Sitka.
Northwestern Transportation Co., Detroit, Mich.—Steamers Fayette Brown, R. J. Hackett, Forest City.
Cleveland Transportation Co., Cleveland O.—Steamers Sparta, Havana, Vienna, Townsend.
Bradley Transportation Co., Cleveland, O.—Steamers City of Cleveland, Henry Chisholm, Superior, E. B. Hale, M. B. Grover, J. S. Fay, R. P. Ranney.

H. H. Brown, Cleveland, O.—Steamers Smith Moore, Chas. J. Sheffield.

Owen Line, Chicago, Ill.—Steamer Ira H. Owen.

Cambria, Outhwaite, Samuel Mather, R. R. Rhodes, Columbia, Aurora.

The machine is at all times under the control of the captain; that is, if it is necessary that a signal shall be given to a passing steamer, or for any other purpose, the moment the captain pulls his wire, the fog whistle machine is thrown out of gear and will not resume its sounding until it is permitted to do so by the master.

Following is the report presented by the committee:

To the President and Board of Supervising Inspectors of Steam Vessels:

Your committee to which was referred the "Chase Fog Whistle Machine" beg leave to report: "That we have carefully examined the same and find that it blows at regular intervals, being worked by the engine, thereby insuring regular and continuous blasts for any length of time that may be required and would recommend it or similar device to owners of steam vessels as an additional safeguard to navigation."

H. S. LUBBOCK,
GEO. H. STARBUCK, } Committee.
W. D. ROBINSON,

The manufacturers are the Chase Fog Whistle Machine Co., corner of Elm and Spruce streets, Cleveland, O.

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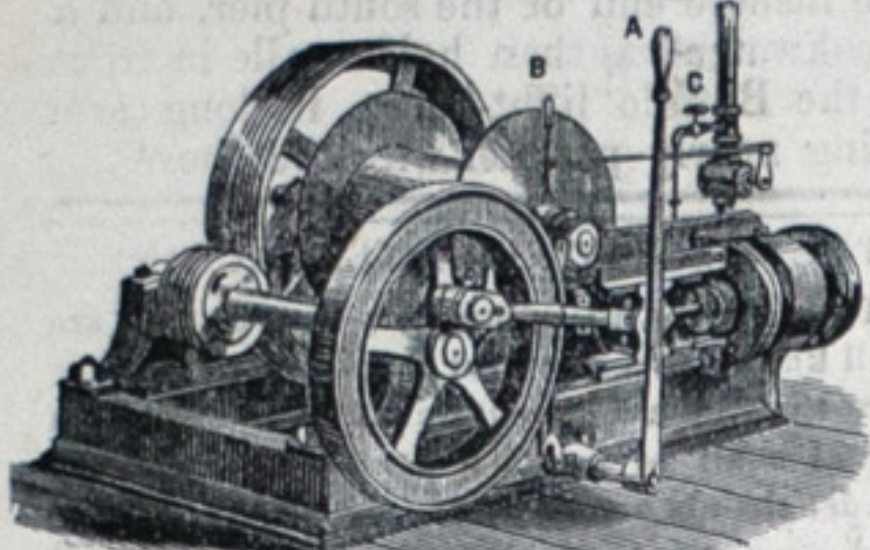
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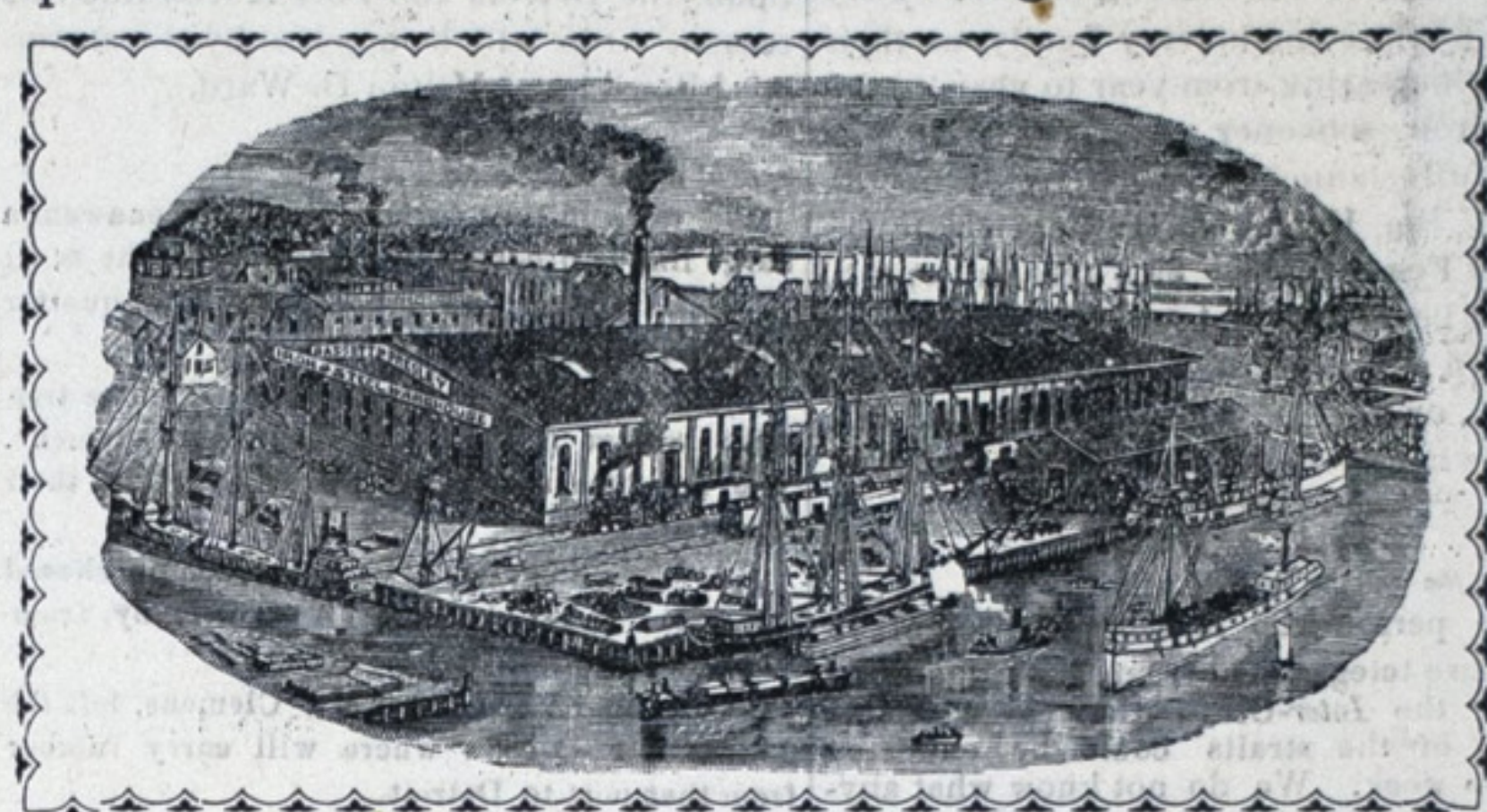
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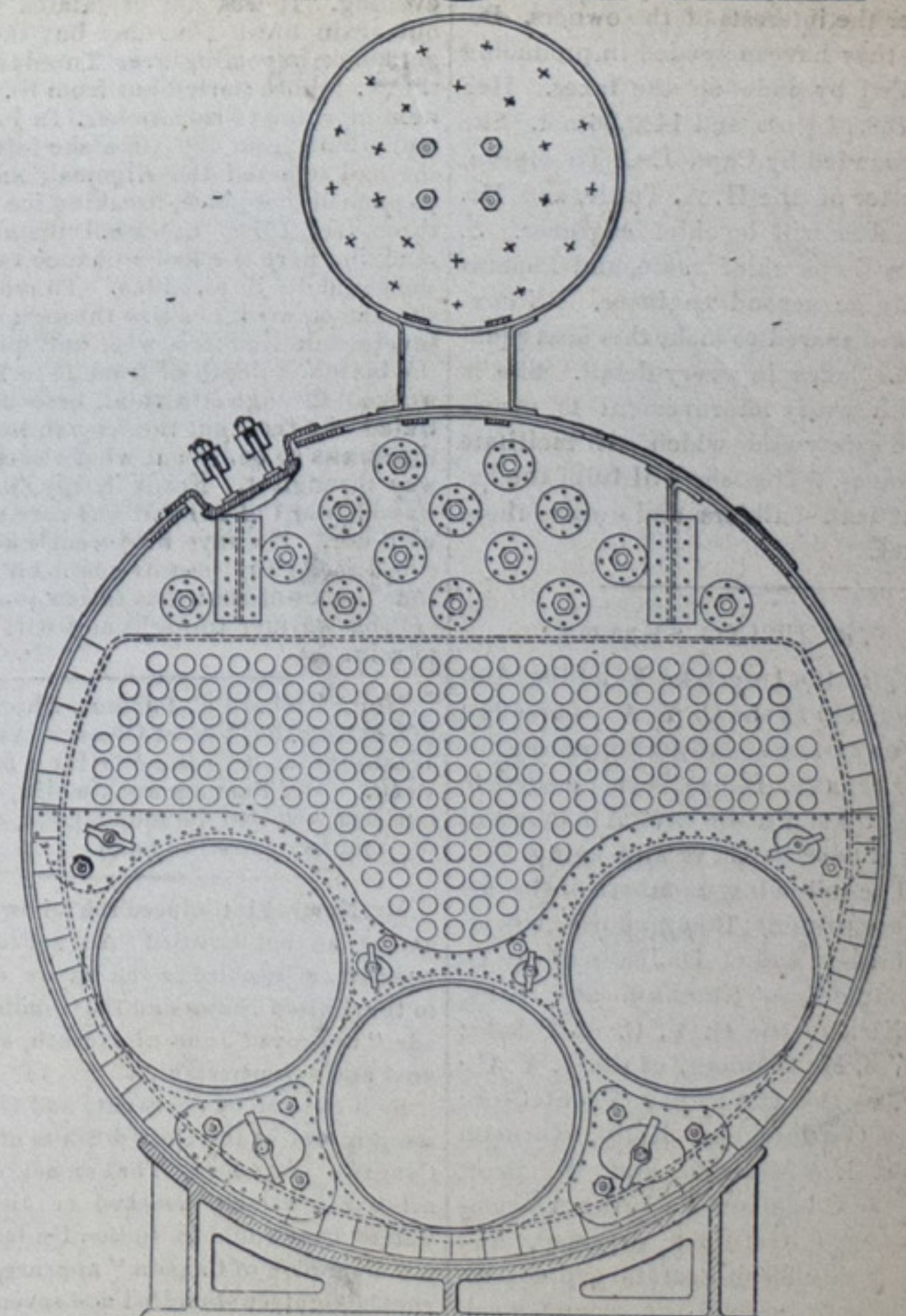
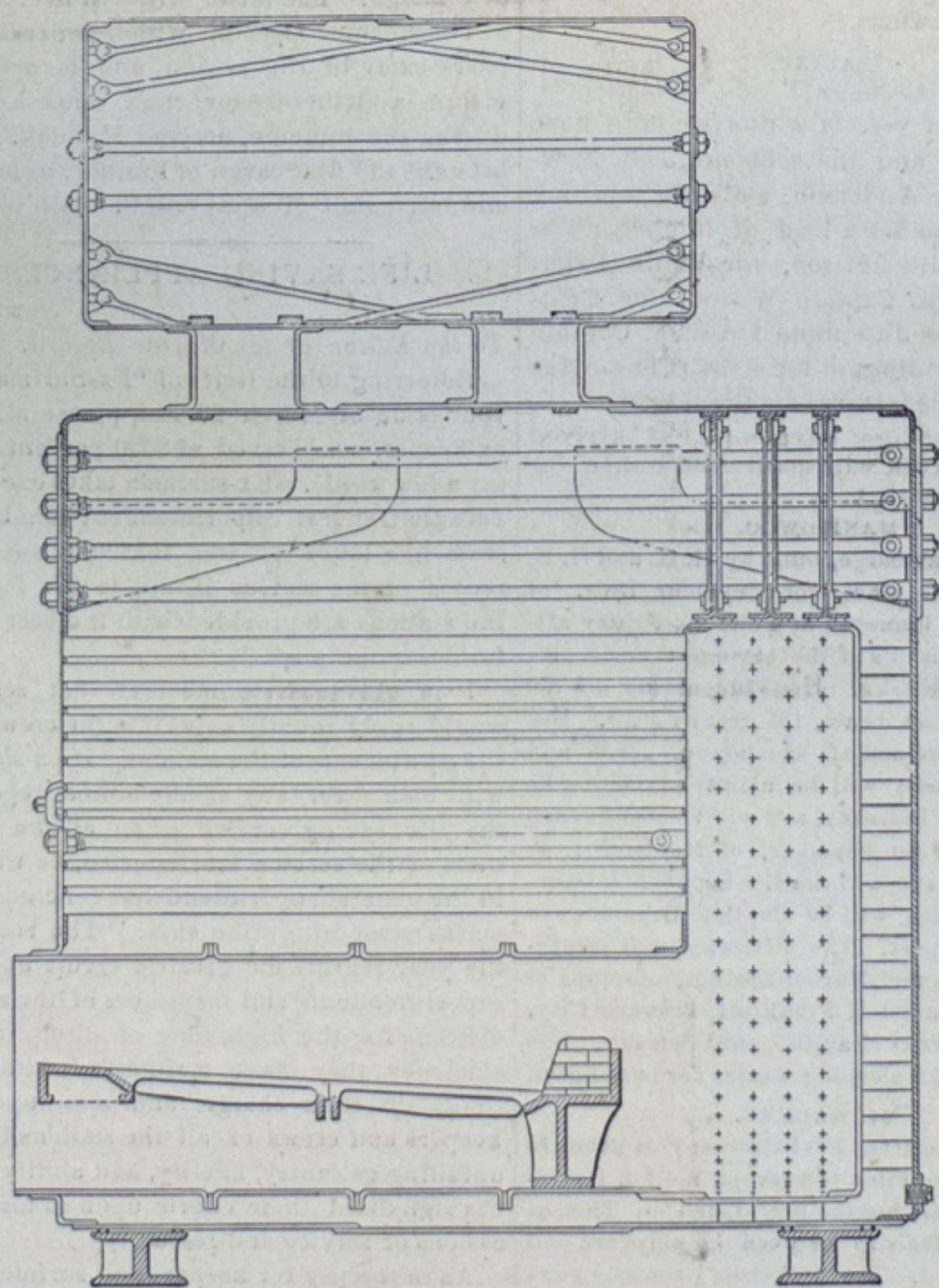
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Eastward.	Arrive	Depart.
No 4, Fast Limited Express.....	12 55 A M	12 55 A M
No 8, N. Y. B. & A. Express.....	10 30 A M	10 55 A M
No 26, Elyria Accommodation.....	17 45 A M	17 45 A M
No 24, Buffalo Ac' m via Sandusky.....	10 05 A M	10 15 A M
No 24, Toledo Accom via Newark.....	10 05 A M	10 15 A M
No 10, New York & Boston, "Flyer".....	11 35 A M	11 35 A M
No 12, N. Y. & B. Fast Express.....	12 20 P M	12 45 P M
No 2, Night Ex via Norwalk.....	9 40 P M	10 00 P M
No 22, Night Ex via Sandusky.....	19 40 P M	19 40 P M
No 26, Connecticut Accommodation.....	14 25 P M	14 25 P M
Westward.	Arrive	Depart.
No 1, Fast Limited Express.....	12 15 A M	12 15 A M
No 23, Cleveland Express.....	12 15 A M	12 15 A M
No 3, Chicago Express via ".....	15 30 A M	5 45 A M
No 25, Mich Accom Norwalk.....	15 45 A M	15 45 A M
No 21, Toledo Ex via Norwalk.....	11 20 P M	11 20 P M
No 5, St. Louis Ex via Sandusky.....	10 50 A M	10 55 A M
No 9, Chi Pac Ex via Norwalk.....	6 55 P M	7 15 P M
No 31, Elyria ac to Elyria only.....	14 30 P M	14 30 P M
No 27, Connecticut Accommodation.....	18 10 A M	18 10 A M

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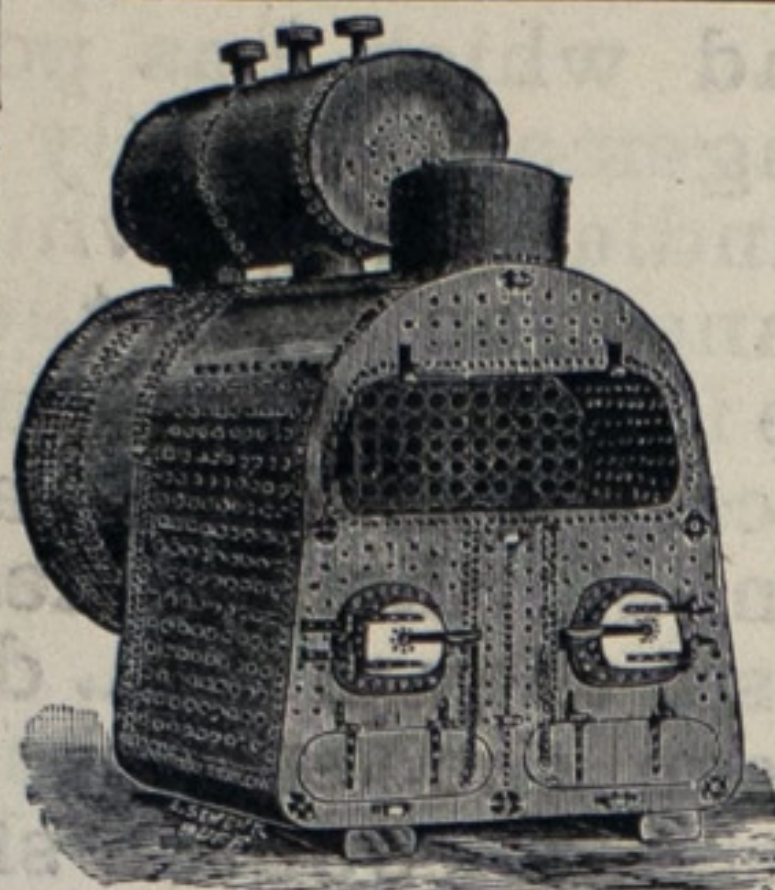
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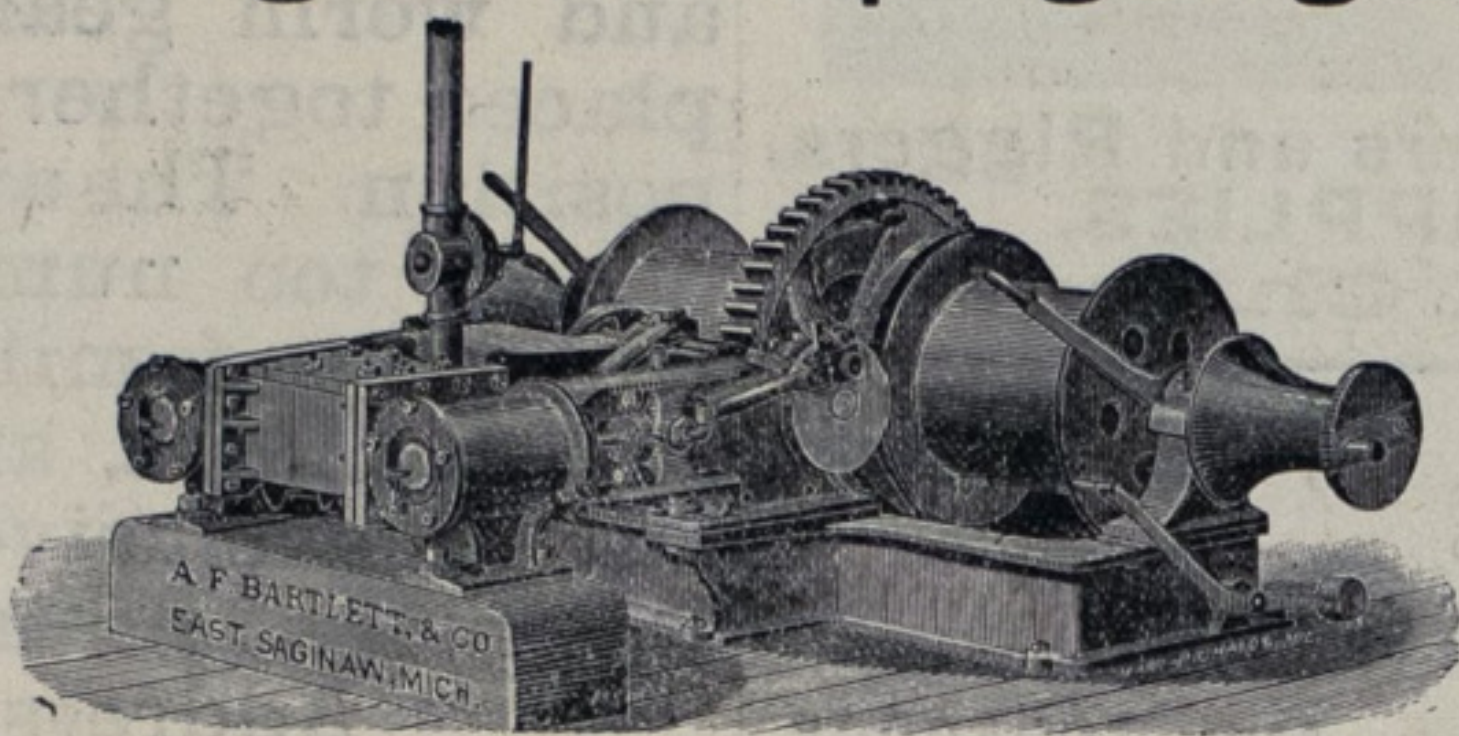
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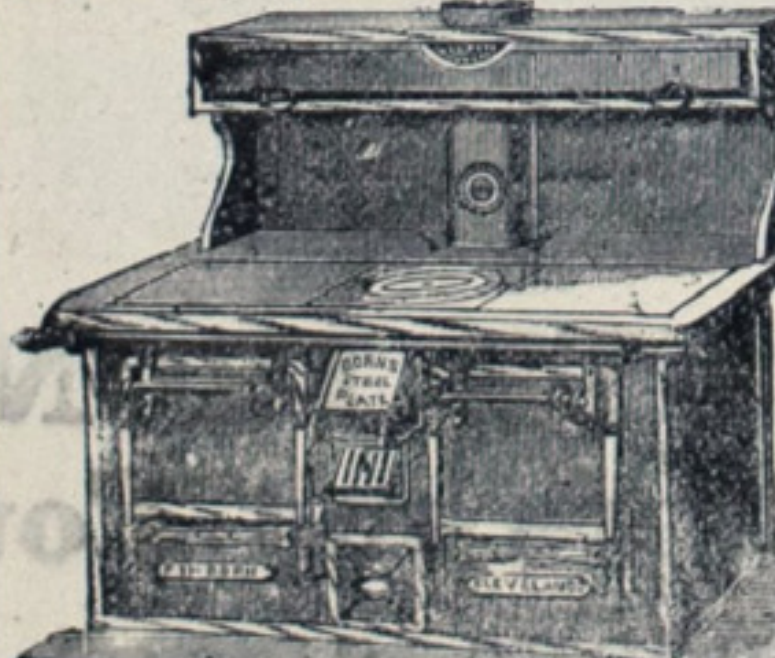
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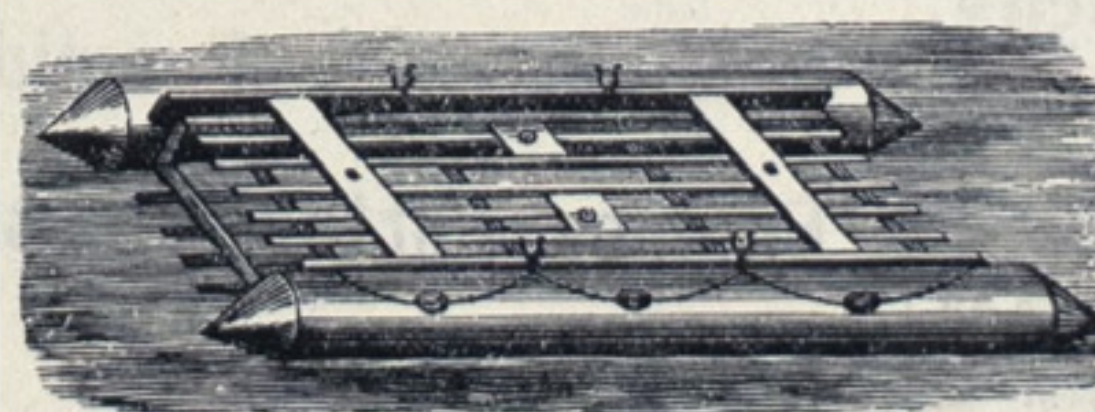
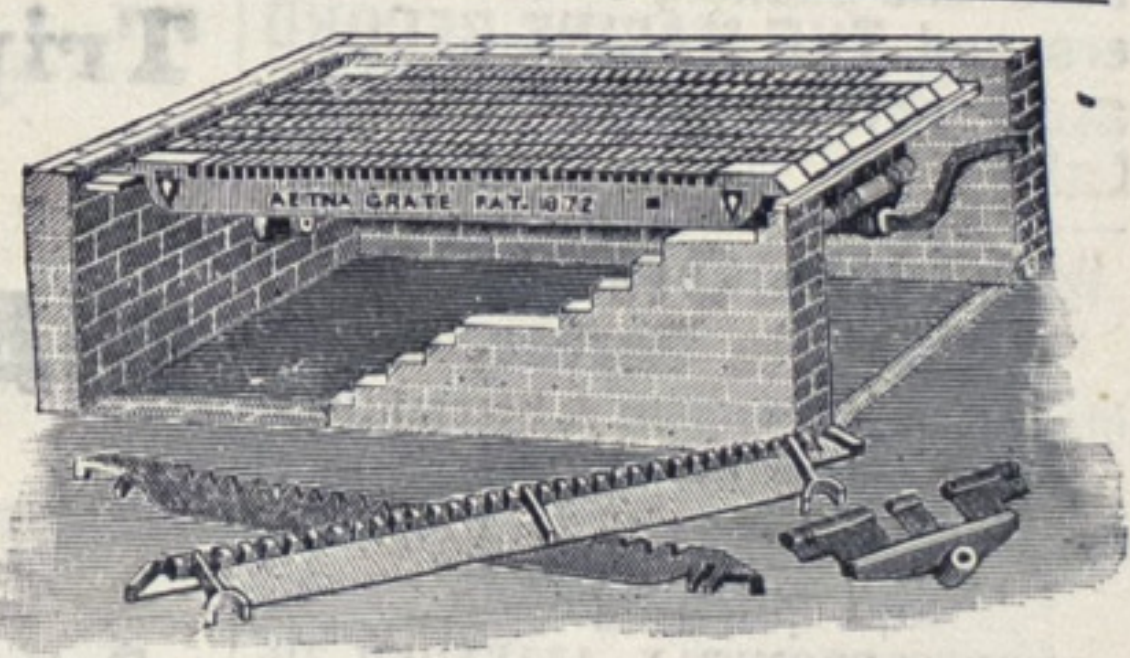
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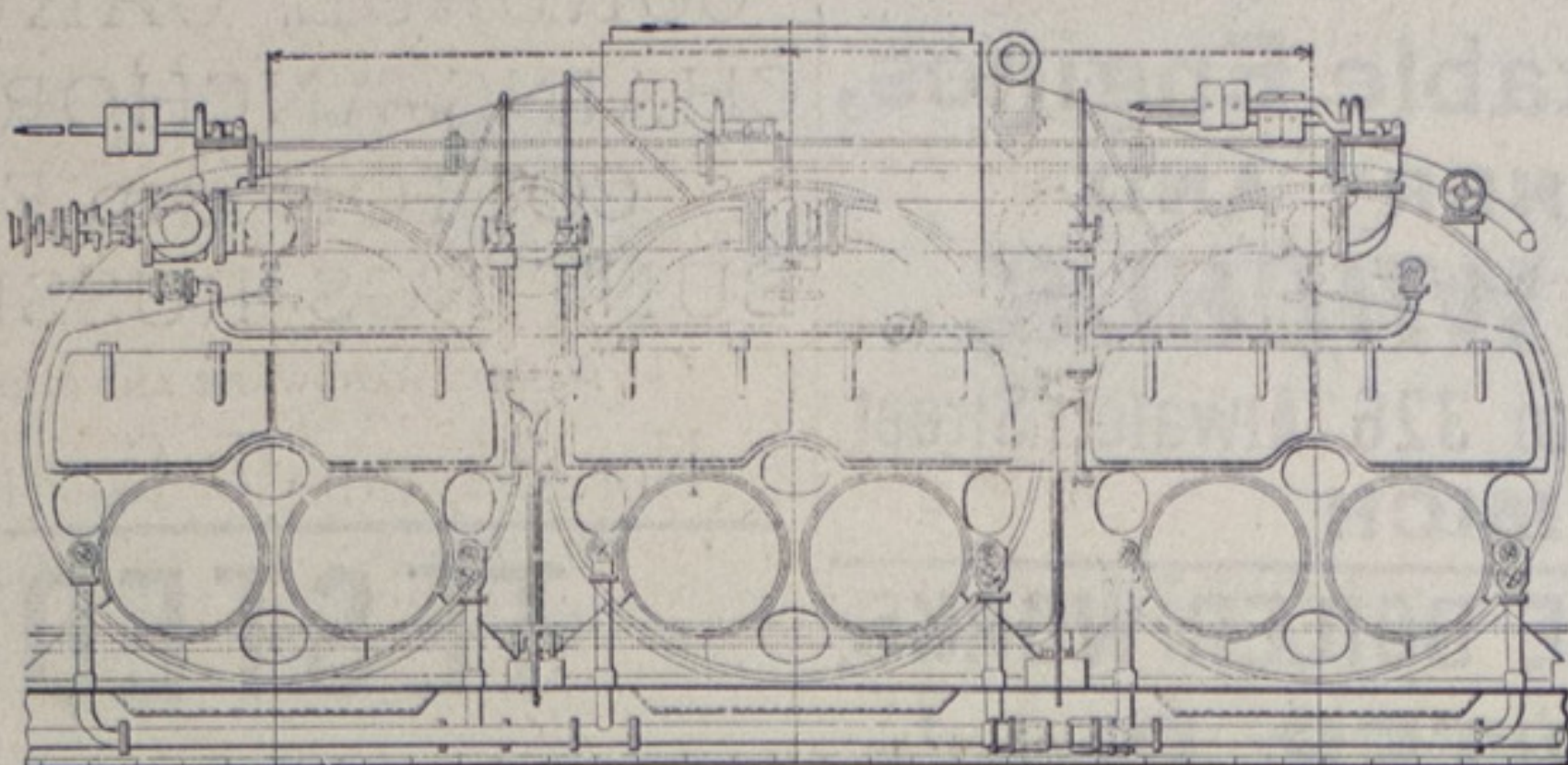
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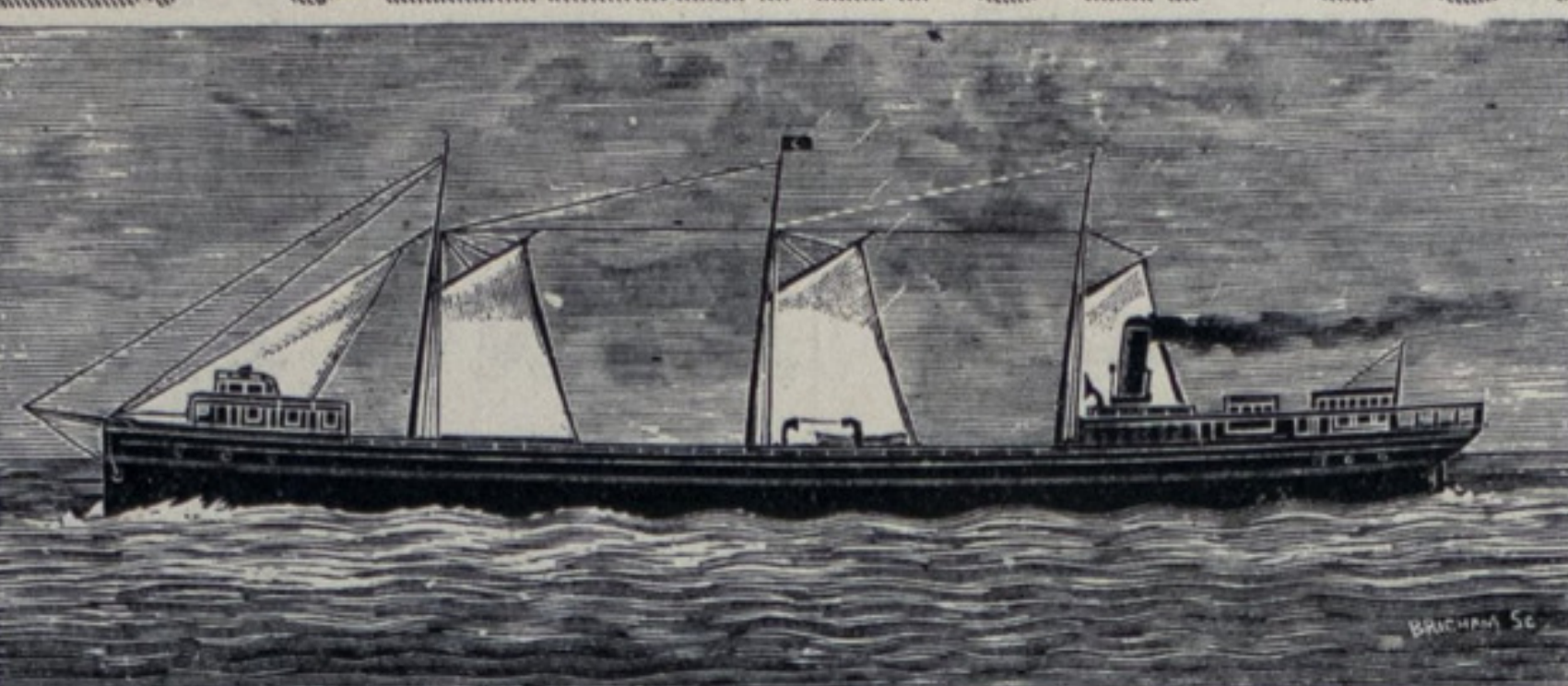
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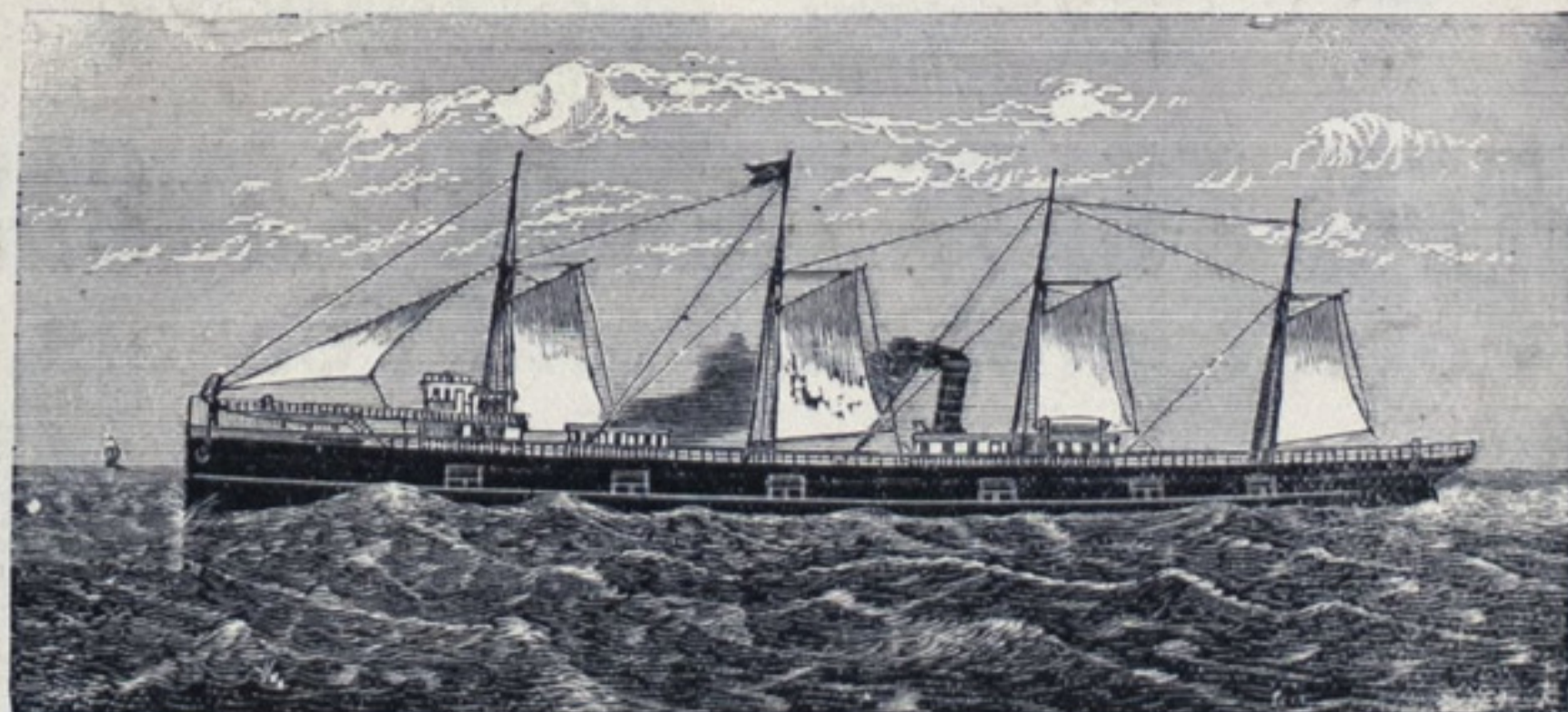
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